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HUMAN PHYSIOGNOMY

EXPLAIN'D:

IN THE

CROUNIAN LECTURES

ON

MUSCULAR MOTION.

For the Year MDCCXLVI.

Read before the

ROYAL SOCIETY:

By JAMES PARSONS, M. D. *and* F. R. S.

Being a SUPPLEMENT to the *Philoſophical Tranſactions* for that Year.

Ἐν ἁπάσῃ δὲ τῇ τῶν σημείων ἐκλογῇ, ἕτερα ἑτέρων σημεῖα μᾶλλον δηλοῦσιν ἐναργῶς τὸν ὑποκείμενον· ἐναργέστερα δὲ τὰ ἐν Ἐπικαίροις τοῖς τόποις ἐγγινόμενα· Ἐπικαιρότατος δὲ τόπος ὁ περὶ τὰ ὄμματά τε καὶ τὸν μέτωπον, καὶ κεφαλήν, καὶ πρόσωπον.

ΑΡΙΣΤΟΤΕΛΟΥΣ ΦΥΣΙΟΓΝΩΜΟΝΙΚΑ,
Ad finem capitis ſexti.

LONDON:

Printed for C. DAVIS, over againſt *Gray's Inn Gate* in *Holbourn*; PRINTER to the ROYAL SOCIETY.

M. DCC. XLVII.

THE PREFACE.

I.

THE Word *Phyſiognomy*, I confeſs, is too large a Title to put before this little Treatiſe, as it ſignifies a View of Nature in general; but ſince the Term *Metoposcopy* (which denotes Opinions ariſing from a View of the Face alone, and which indeed would be better adapted to what I treat of) is leſs underſtood than the other, and as moſt People now-a days mean no more by the former than what regards the Countenance, I hope I may be excuſed taking that which is the moſt familiar Term.

II.

This Subject has been handled by a great Number of Authors; not one of whom, that I know of, has purſued the Plan upon which I proceed; that is, what regards the proper Actions of the Muſcles of the Face, and their particular Obedience to the Influence of the Mind.

John

John Bulwer (whoſe Book I had never heard of, till my intire Treatiſe, except the Liſt of Authors, and this Preface, was printed off) makes an Attempt to explain this Subject, as the Title of his Book ſets forth; but it is fill'd with many extravagant Notions from different Authors, and is ſo far from aſcertaining the peculiar Office of any one Muſcle of the Face, that he thinks they all act one againſt another to form Laughter; and calls in Blood and Spirits to fill the Face, in the ſame manner that the *Membrum virile* is fill'd; with many other ſuch Fancies thro' the Whole, which our Room here will not admit us to animadvert. But I have rejected every other Method made uſe of before; and in the Progreſs added ſome new Obſervations to the Deſcription of the Muſcles, which are the true Agents of every Paſſion of the Mind, as the *Baſis* upon which our Doctrine is founded; wherein, if I have not ſucceeded as perfectly as I could wiſh, I hope it will, at leaſt, be allowed the only true Scheme for underſtanding that Art.

III.

I have endeavour'd to make theſe Lectures as entertaining as I could, and as inſtructive; whereby any one, verſed in the Art of deſigning, may be able to repreſent the Paſſions of the Mind upon the Face, by dint of his Knowlege of the muſcular Structure: And as the Number of Repreſentations is but ſmall, which ſerves for their Expreſſion, there was no need of multiplying them to a Repetition of Deſigns that muſt make Confuſion. Had a certain great

great Man been learned in this Part of Anatomy, he would have made fewer ſerve his Purpoſe, and not allow'd different Motions to different Parts of the *Occipito-Frontalis* at the ſame time; nor have made the Wrinkles of the Forehead longitudinal, which ſhould have been tranſverſe or horizontal, by the Action of this Muſcle: Nor is there, in a word, any Neceſſity to draw the Hair ſtanding upright, to exaggerate his Figures in any wiſe, which is unnatural; for the Actions of the Countenance alone will be ſufficient to expreſs the Paſſions, ſince its Muſcles are the ſole Agents.

IV.

For this Reaſon I have avoided changing the Attitude in the Expreſſion of any one of my Figures; chuſing rather to repreſent them as much as poſſible on the ſame kind of Face, whereon no Change is viſible, but what proceeds from the particular Alterations of the Muſcles peculiar to each Paſſion.

V.

And, in order to render this Treatiſe, tho' very ſhort, the more complete, I have added a Liſt of the Names and Works of the Authors upon this Subject, and a general Index to theſe and my former Lectures on *Muſcular Motion*, for the Convenience of ſuch as have them, which will make the Whole the more perfect when bound up together.

VI.

VI.

The Maſters in the Art of Deſigning I hope will excuſe any little Faults that may occur, as to what relates to the Drawing in my Figures; for I have no Pretenſions to be correct in that Part, nor any other View in this Work, than to demonſtrate and explain the Actions of the Muſcles on the Countenance as a Standard for *Phyſiognomy*; in which thoſe of both Sexes move upon the ſame Principles, and, by ingenious Painters, may be expreſſed on either, only by making Allowances for the Delicacy of the one, and the Roughneſs of the other, when once duly verſed in the anatomical Principles.

VII.

I cannot omit taking this Opportunity of giving due Honour to our Painters in *England*, notwithſtanding the Liberties a late *French* Author has taken with them; many of whom are capable of any Branch of the Art, as their ſeveral curious Performances in many Places * about this Kingdom can teſtify. We do not want thoſe who paint in *Hiſtory*, *Landskip*, *Converſation*, and *Architecture*, in great Perfection; altho' there is ſcarce Encouragement here for any Branch but *little* Portraits: And if we were

* *St. Paul's* Church, *St. Bartholomew's*, the *Foundling*, and *Greenwich Hoſpitals*, as well as in the Cabinets of many Noblemen and Gentlemen throughout *England*.

were bleſs'd with the ſame academical Endowments that other Nations can boaſt of, we ſhould undoubtedly have as great Proficients in the Arts of Painting and Sculpture as any Nation: For it is notorious, that our Youth have made as good a Figure in foreign Academies as any that were educated at them; and we have even had ſome, who, by dint of Genius, have born away the Prizes from thoſe of every other Nation.

VIII.

But not to dwell unneceſſarily upon what all the World, except the Author in Queſtion, knows, we cannot but fall into the following Reflections: Every one, from the firſt Dawn of his Underſtanding, is borne away by the Torrent of Partiality, till a generous Education wears it off, and qualifies the Man for paſſing an impartial Judgment upon every thing that comes before him; and this is ever Maſter of the unhappy Wretch who has had no ſuch Advantage. Now it was ſtrange to find the Duſt of Prejudice had ſo blinded the Eyes of that Author, who has the Reputation of a Man of Learning, that, at his Arrival in *England*, he was ſcarce able to diſcern any thing but Faults and Defects thro' the whole Kingdom; whilſt at home there was hardly an Imperfection: But it may be ſuppoſed he had a Mind to give the World a Specimen of his Abilities in Satire.

IX.

Satire requires a very refin'd Genius and Taſte to carry it on, whether in Proſe or Verſe; for, when

Cenſure is aimed point-blank, it amounts to no more than plain *Billingſgate*, or, as the *French* have it, *Criailler, ou ecrire en grondant*. I wiſh I were able to diſcern the Profundity of his Wit, in ſaying, among many other Things, "*England* has not hitherto bred one Painter (*a*), *&c.*" that here Hunting ſeems to be the Paſſion of all Ages and Sexes (*b*); his Animadverſions upon which he has happily concluded with a ſublime Tale of a Poſt-boy; and that it was Lazineſs that made *Shakeſpear* write ſeveral Tragedies in Proſe (*c*). —— Now, to anſwer theſe Aſſertions in the Stile of the *Abbé*, the natural Reply would be, point-blank, "*Ce n' eſt pas vrai.*" But we will not ſo far imitate him; no, let us uſe him with more Politeneſs, and rather recommend to him, when he next intends to write Letters, to ſtudy thoſe of an *Engliſh* Author (*d*) firſt, which want neither *Delicacy, Truth*, nor *Deſign*; where the Satire is keen, yet pleaſing, and not ſtuff'd with *tame crawling* Narratives.

X.

Judgment is moſt likely to be genuine, where it is engaged in the Diſcovery rather of Beauties than Faults; and is but barely honeſt, when it is capable of ſeeing ſome Beauties as well as Faults. A curſory Spectator, in running thro' a Kingdom, is not to condemn or ridicule the Cuſtoms he finds, only becauſe

(*a*) Vol. I. Lett. 23. (*b*) Lett. 46. (*c*) Lett. 31.
(*d*) Mr. *Littleton*'s *Perſian* Letters.

becauſe he knows not the Reaſon of any one. And it is ſo in a Language, which may, to a Stranger, ſeem ridiculous, only becauſe he is ignorant of its proper *Idiom*. The Cuſtoms of all Countries ariſe chiefly from ſome neceſſary Cauſe, and are adapted and continued by the ſame Law, tho', perhaps, with ſome additional Conveniences; and ſince thoſe of different Nations muſt always differ from each other, it ſeems to me as injudicious to ridicule them, as to grumble becauſe the Perſons of the *Engliſh* are not exactly like thoſe of the *French*.

XI.

Here is a ſingular Inſtance in a Man of Learning, who could find but very few Men of Genius, or good Things, out of his own Country. This ſtrange Love for his own Fire-ſide puts me in Mind of a *Hottentot* Boy, who was taken up young by the *Dutch*, educated and ſupplied with every thing that could engage the Approbation and Satisfaction of ſuch a one for ſeveral Years; yet he was not content, but made uſe of the firſt Opportunity to get back to his own People; among whom he had no ſooner arrived, than he haſtily threw off his Cloaths, flew to the next Shambles, and there, in an Inſtant, clad himſelf with the Garbage he found, which with Pleaſure he rolled round his Limbs and Body; furniſhing himſelf at once with Food and Raiment, more agreeable to him than the Neceſſaries better ſuited to the Welfare of human Life, with which he was ſupplied before. —— But enough of the learned Abbé, and of the *Hottentot*.

XII.

When the *Royal Society* had order'd that I ſhould read theſe Lectures, I laid hold of the Opportunity to build this Part of the phyſiological Syſtem upon an anatomical Foundation; and, I flatter myſelf, it will appear the moſt likely to anſwer all the *Phænomena* of *Metopoſcopy*. Hereafter it will, no doubt, be carried farther, and perhaps be ſet in a more advantageous Light, by induſtrious Anatomiſts; and tho' the Subject admitted of many Difficulties, yet the Candour of the *Society*, upon hearing the Lectures read, encouraged me to make ſome Improvements upon what they had heard, in order to bring it thus far; and whatever is wanting in the Perfection of it, the Author's Intention to improve Natural Knowlege, it is to be hoped, will make ſome Apology, and beſpeak for it the more candid Reception of ſuch as have Pleaſure in theſe Kinds of Study.

A

LIST

OF

Such AUTHORS as I could procure an Account of, who have treated of *Phyſiognomy.*

A

ARISTOTELES.
Opera, cap. 6. *Phyſiognomicωn liber, græce et latine.* Lutetiæ Pariſiriſiorum, *typis regiis*, 1619. *folio.*

ARTEMIDORUS,
De ſomniorum interpretatione, libri 4; *de auguriis et manuum inſpectione, libri* 2; *græce.* Venetiis, 1527, 4*to.*; *latine.* Baſileæ, 1539, 4*to*; *græco latine* Lutetiæ, 1603, 4*to.*

B

BALDUS Camillus.
In phyſiognomonica Ariſtotelis *commentarii, &c.* Bononiæ, 1621, *folio.*

BLONDUS Mic. Angelus.
Phyſiognomia, ſive de cognitione hominis per aſpectum, &c. Romæ, 1544, 4*to*

Le

Le BRUN.
Conference ſur l'expreſſion generale et particuliere des Paſſions; á Amſterdam, 1713.

BULWER John.
Chirologia, or the natural Language of the Hand, *&c. &c. Lond.* 1644.
Pathomyotomia, or a Diſſection of the ſignificative Muſcles of the Affections of the Mind, *&c. London*, 1649.

C

CERASARIENSIS Tricaſſus.
Enarratio principiorum chiromantiæ, &c. *Item chiromantia incerti autoris*, &c. Noribergæ, 1560, 4*to*.

COCLES Bartholomæus.
Anaſtaſis chiromantiæ et Phyſiognomiæ, ex pluribus et pene infinitis autoribus. Bononiæ, 1504, 4*to*.
Phyſiognomiæ compendium, quantum ad partes capitis, gulamque et collum attinet. Argentorati, 1533, 8*vo*.

CORNARIUS Janus.
Interpretatio latina ex græco, phyſiognomonicorum Adámantii Sophiſtæ. Baſileæ, 1544, 8*vo*.

CORVUS Andreas.
Chiromantia, extat cum Barthol. Coclitis *phyſiognomoniæ compendio*. Argentorati, 1533, 8*vo*.

F

FINELLA Philippus.
De metopoſcopia libri tres, Antwerpiæ, 1648. 8*vo*.

FLUDD Robertus.
Medicina catholica, ſeu myſticum artis medicandi ſacrarium, in tomos duos diviſum. Vide partem ſecundam portionis tertiæ tomi primi; ubi circa contemplationem faciei *et* manus *ægrorum verſatur, et phy-*

phyſiognomiam cum chiromantia tractat. Francofurti, 1629, *folio.*

FONTANUS Johannes. *Phyſiognomia* Ariſtotelis, *ordine compoſitorio edita*, &c. *in gratiam eorum præſertim, qui mores hominum perſpicere ſtudent.* Pariſiis, 1611, 8*vo.*

FREJUS Janus Cæcilius. *Omnis homo, item amor et amicitia, item phyſiognomia, chiromantia, oniromantia*, &c. Pariſiis, 1630, 8*vo.*

FUCHSIUS Samuel. *Metopoſcopia et ophthalmoſcopia* Argentinæ, 1615, 8*vo.*

G

GAURICUS Pomponius. *Tractatus de ſymmetriis, lineamentis, et phyſiognomia, extat cum introductionibus apoteleſmaticis* Johannis ab Indagine. Argentorati, 1622, 1630, 8*vo.* p. 317.

GOCLENIUS Rudolphus. *Chiromantia et phyſiognomonica ſpecialis cum experimentis memorabilibus.* Marpurghi, 1621, 8*vo.* Hamburgi, 1661, 8*vo.*

Uranoſcopia, chiroſcopia, metopoſcopia, et ophthalmoſcopia. Francofurti, 1608, 12*mo.*

GRATAROLUS Gulielmus. *De prædictione morum naturarumque hominum facili, et inſpectione partium corporis, liber.* Baſileæ, 1554, 8*vo.* Tiguri, 1555, 8*vo.*

H

HAYCK, Thaddæus *Ab.* *Metopoſcopia.* Francofurti, 1584, 8*vo.*

HELVETIUS Johan. Frid. *Micro-*

Microſcopium phyſiognomiæ medicum, id eſt tractatus de phyſiognomia, &c. Francofurti, 1676, 8*vo*.

HUND Magnus,
Anthropologium de hominis dignitate, natura et proprietatibus; de elementis; partibus corporis humani; de morbis, remediis, phyſiognomia, &c. Lipſiæ, 1501, 4*to*.

I

INDAGINE Johannes de.
Introductiones apoteleſmaticæ elegantes, in chiromantiam, phyſiognomiam, &c. Lugduni, 1556, 8*vo*. Argent. 1534, 1541, *fol. Ibid.* 1622, 1630, 8*vo*.

L

LANCISIUS Jo. Mariæ.
Diſſertatio phyſiognomonica ad Johannem Fantonum; *extat inter obſervationes anatomico-medicas* Jo. Baptiſtæ Fantoni, *&c.* Venetiis. 1713.

M

MOLDENARIUS Chriſtian.
Exercitationes phyſiognomonicæ, IV. *libris comprehenſæ; quorum* I. *Phyſiognomiam generalem totius corporis*, II. *Chiromantiam, ſeu manus inſpectionem*, III. *Metopoſcopiam, ſeu frontis contemplationem*, &c. *proponit*, &c. Wittebergæ, 1616, 8*vo*.

O

OTTO Andreas.
Anthropoſcopia, ſeu judicium hominis de homine, ex lineamentis externis a capite uſque ad calcem proximum. Regiomontani, 1647, 12*mo*. Lipſiæ, 1668, 12*mo*.

P.

P

PARACELSUS Aureolus Philippus Theophraſtus.
Operum medico-chemicorum, tomi XII. *Vide tom.* V. *part* 6. *de phyſiognomia quantum medico opus eſt.* Francofurti, 1603, 4*to.*

PERSONA Johannes Baptiſta.
Noctes ſolitariæ, ſive, de iis quæ ſcientifice ſcripta ſunt ab Homero *in* Odyſſea; *in quo, præter alia, agitur de phyſiognomonicis.* Venetiis, 1613, 4*to.*

PERUSCUS Camillus Adamantii Sophiſtæ *phyſiognomonicorum, id eſt, de naturæ judiciis cognoſcendis, libros duos græce edidit.* Romæ, 1545, 4*to.*

POLEMON.
Phyſiognomonicon opera Camilli Peruſci *editum græce* Romæ, 1545, 4*to. cum* Æliani *variæ hiſtoriæ lib.* XIV. *græce itidem, aliiſque.*

PORTA Johannes Baptiſta.
De humana phyſiognomia, libri ſex, &c. Francofurti, 1592. Neapoli, 1602, *fol.* Francofurti, 1618, *et* 1621, 8*vo.*

R

RHYNE Gulielmus Ten.
Diſſertatio de arthritide; mantiſſa ſchematica; de acupunctura; et orationes tres; I. *De chymiæ ac botanicæ antiquitate et dignitate.* II. *De phyſiognomia.* III. *De monſtris, &c.* Londini, 1683, 8*vo.*

ROUSSEUS Balduinus.
In chiromantiam brevis iſagoge extat cum Tricaſſi Ceraſarienſis *enarratione chiromantiæ.* Norib. 1560, 4*to.*

ROTHMANNUS Johannes. *Chiromantia.* Euphordiæ, 1595, 4*to.*

S

SANCHES Franciſcus. *Opera medica. His junctì ſunt tractatus quidam philoſophici non inſubtiles, quorum unus in librum* Ariſtotelis phyſiognomon. *commentarius*, p. 34. Toloſæ, 1636, 4*to.*

SCOTUS Michael. *Phyſiognomia, et de hominis procreatione.* Pariſiis, 1508, 8*vo.*

SOPHISTA Adamantius. *Phyſiognomonicorum, id eſt, de naturæ indiciis cognoſcendis, lib. duo, græce opera* Camilli Peruſci *editi ſunt* Romæ, 1545, 4*to. cum* Æliani *variæ hiſtoriæ lib.* XIV. *aliiſque, latine autem, interprete* Jano Cornario, *&c.* Baſileæ, 1544, 8*vo.*

T

TAISNIERIUS Johannes. *Opus mathematicum, octo libros complectens, innumeris propemodum figuris idealibus manuum et phyſiognomiæ aliiſque adornatum*, &c. Colon. Agripp. 1583, *folio.*

TAMBURINUS Hieronym. Camilli Baldi *commentarios in phyſiognomonica* Ariſtotelis *primum edidit.* Bononiæ, 1621, *folio.*

TIMPLERUS Clemens. *Optices ſyſtema methodicum, et phyſiognomiæ human.* Hanov. 1617, 8*vo.*

V

VECCHIUS Paulus. *Obſervationum omnigenæ eruditionis in divinam ſcripturam carptim univerſam, libri duo; primus continens obſervationes phyſiognominicas,*

gnomonicas, ſive locos ſacræ ſcripturæ qui ponderantur juxta phyſiognomonica principia, &c. Neapoli, 1641, 4*to.*

Z

ZANARDUS Michael.

Diſputationes de universo parvo, mixto homine, &c. *Temperamenta ejuſdem cognoſcenda per ſigna, rationes naturales, et phyſiognomia, quoad totum et ſingulas partes,* &c. Venetiis, 1619, 4*to.*

ERRATA.

In *p.* 4. *l.* 18, for *certainly* read *certain*; *p.* 8, *l.* 16, for *in almoſt*, read *in an almoſt*; *p.* 41, *l.* 19, for *laugh'*, read *laughed*; *p.* 74. *l.* 3, for *mand*, read *Command.*

HUMAN PHYSIOGNOMY

EXPLAIN'D:

IN THE

CROUNIAN LECTURES

ON

MUSCULAR MOTION.

LECTURE I.

I.

Read Nov. 20. 1746. I HAVE the Honour, Gentlemen, to appear once more before you, on account of the *Crounian* Lecture; being commanded to it by the worthy PRESIDENT and *Council* of this Moſt Learned *Society*; and could wiſh my Abilities were but equal to my Will, in my Compliance with that Duty; I ſhould not then delay a Moment to offer, with the utmoſt of my Power, what would conduce not only to the Welfare of the Public, but alſo to your better Amuſement.

II.

The benevolent Founder of this Lecture has indeed circumſcribed it within very narrow Limits, by confining it, in this *Society*, to the Phyſiology of the Motion of the Muſcles alone: Whereas, had he allow'd it to be more generally anatomical, the Undertaker would find ſeveral very pleaſing Fields to range in, relating to the animal Oeconomy, not yet taken notice of, that are capable of ſtriking the Hearers with Amazement, and of producing, in the *Royal Society*, yet a greater Regard for the moſt ſtupendous and curious Subjects in all Nature.

III.

As to the Invention of any more Syſtems towards the Explanation of animal Motions, I confeſs, I think it a Labour as much in vain as the Puniſhment of *Siſyphus*; becauſe I believe it utterly impoſſible ever to render it familiar to any human Perception, however nearer one Author's Opinion may approach the Truth than that of another: And therefore I take the Liberty here to recommend to whomſoever ſhall hereafter be appointed to make this Lecture, to confine it to the Deſcription of Muſcles; and to whatever new Obſervations may occur with reſpect to the ſenſible Motions of them, not hitherto taken notice of; together with more familiar and exact Drawings of them than have already appear'd to the Learned World. Thus may ſeveral uſeful Deductions be made from a Method of this Nature; a *Correctorium* be produced for all former Treatiſes of the Muſcles; and,

and, at length, a new general Hiſtory of them appear, ariſing from the ſucceſſive Labours of ſome of the Members of this *Society*.

IV.

With this View, and as a Beginning to ſuch a Plan, I ſhall now attempt to give you a Deſcription of the Muſcles of the Face; with ſome Obſervations and Remarks, which I hope will appear curious to you, relating to their ſeparate as well as conjunct Actions, and the Appearances of the Countenance that are the natural Effects of ſuch Actions; together with accurate Drawings, which will ſerve to their better Demonſtration, and which I choſe to lay before you, rather than a diſſected Head; as being, I am perſuaded, a much leſs agreeable Sight to many among us, than a fair Drawing.

V.

To proceed then: Let us conſider thoſe Muſcles in their Order, which chiefly ſerve to form and move the Skin of the Face, or change the Countenance; which are thoſe of the *Forehead*, *Eyelids*, *Eyes*, *Noſe*, *Lips*, and *Cheeks*.

VI.

To theſe I ſhall confine this Lecture, and to certain Remarks and Obſervations upon their Actions; having Regard all along to thoſe Authors, that were moſt exact and accurate in their Reſearches and Diſcoveries of the true Structure of Muſcles. But, before I begin my Deſcription, I cannot but particularly

mention, in this Place, with the greateſt Reverence, that indefatigable Anatomiſt the late Doctor *James Douglas*, whoſe Treatiſe of the Muſcles, I find, was not known to the famous anatomical Critic * *Santorini*, or he could not have quoted, beſides *Euſtachius*, two more modern Authors for the Diſcovery of the Muſcle called the *Coccygæus*; neither of whom could ever have known this very Name, if Dr. *Douglas* had not invented it, when he diſcover'd the Muſcle which he call'd ſo, ſome conſiderable Time before he publiſh'd his *Myographiæ comparatæ ſpecimen*, which the World was favoured with in the Year 1707.

VII.

Now, although the firſt Diſcovery of this Muſcle has been given to *Euſtachius*, becauſe ſomething like it is ſeen upon a back View of one of his Figures; yet, ſuppoſing that Author's Figures right as to this Point, our Dr. *Douglas* is abſolutely as certainly an original Diſcoverer of this Muſcle as *Euſtachius*; becauſe the Plates of the latter were concealed from the

* *Santorini*, in his *Obſervationes anatomicæ*, has theſe Words; 'Quamvis poſtremæ levatoris fibræ triangulari illi muſculo adſint, 'qui jamdiu ab Euſtachio exhibitus, deinde ab clar. Cheſeldeno, et 'Morgagno, tum retrahendo et levando coccygi, tum iis partibus firmandis tribuitur, &c.' He alſo ſeems not to know what *Lancifius* mentions in his Letter to Dr. *Fantonus*, that *Morgagni* was invited to aſſiſt in the Explanation of *Euſtachius*'s Tables; and, conſequently, that he was the leſs likely at that time to have any Share in the Diſcovery of that Muſcle, which no doubt appears on a back View of a muſcular Body in that Author's 36th Table, at the time of *Lancifius*'s being employ'd to explain them; of which more hereafter.

the World till about five Years after Dr. *Douglas*'s Book came out; and even when they were found, they had no Explanation, till *Lancisius* first explain'd them in the Year 1712. who, notwithstanding, never took any notice of the *Coccygæus* Muscle in his Explanations; although we may affirm *Morgagni* assisted in them: For *Lancisius*, after he had been order'd by the Pope to publish his Explanations, wrote Letters to one *Fantonus*, and to *Morgagni*, both Physicians and Professors of Anatomy, setting forth the Difficulty of the Task, and requiring their Opinions and Assistance in altering whatever they might see amiss in what he had done. He received Answers from both; and in that of *Morgagni* a particular Recapitulation of some Part or other of the Figure of every Table, except that of the XXXVI. Plate, which alone contains this Muscle in Question. But, afterwards he tells us, in his *Adversaria*, (which were printed as late as the Year 1719.) that he discover'd it himself, and calls it *Musculus Coccygis Levator*. See the End of his 45th *Animadversion*; for before this, neither *Lancisius*, *Fantonus*, nor *Morgagni*, took notice of it: Whereas Dr. *Douglas* not only discover'd the Muscle, and demonstrated it to the Students who attended his Lectures, but also invented the Name for it, so many Years as I have mentioned before *Eustachius*'s Plates were found. It would have been an ungenerous Omission, to have neglected setting this Part of anatomical History right, since I was so happy to be well acquainted with his great Abilities in this and other Branches of Learning in his Life-time; and particularly, since I find a foreign Author, of so much Credit as *Santorini*, very much mistaken

miſtaken in the Matter; and a domeſtic Author of no leſs Note, the ingenious Profeſſor *Monro*, calling it the *Coccygæus* of *Douglas*, or rather of *Euſtachius*, who, though he might have ſeen the Muſcle, we might be ſure never dreamed of the Name; and, conſequently, we have as much Reaſon to aſcribe the Diſcovery of the *Coccygæus* to *Douglas* as to *Euſtachius*, if not more. Having now the Satisfaction of giving due Honour to the Memory of that able Anatomiſt, who was ſo worthy a Member of this Learned *Society*, I return to my preſent Purpoſe: And firſt of the Muſcles of the Forehead:

VIII.

Of the Frontal Muſcle.

THERE are ſome Differences amongſt Anatomiſts concerning this Muſcle and the ſubſequent; but, from the Accuracy of the Diſſections of Dr. *Douglas*, and my own Obſervations, there is no better Deſcription can be exhibited than his, whoſe Book I was intirely led by, during my Diſſections in Myology; which was always ſtrongly recommended by the Anatomiſts I followed, as the ſureſt Guide, during my Studies, and which I ſhall now chiefly follow, as to the Deſcriptions and Uſes of the Muſcles in Queſtion; except where any new Obſervation may perhaps make an Alteration.

IX.

The true *Frontal Muſcle* ariſes fleſhy from the Proceſs of the *Os Frontis* next the inner or great Angle

Angle of the Orbit, above the Joining of the *Os Naſi* and ſuperior Proceſs of the *Os maxillare* with this Bone; from thence it runs obliquely outwards and upwards, and is inſerted into the fleſhy Part of the ſubſequent Muſcle, ſome of its *Fibrillæ* paſſing through into the Skin a little higher than the middle Region of the Eye-brows. Its Uſe is to ſmooth the Forehead, by pulling it down after it has been wrinkled by the Action of the *Occipito-Frontalis*; and when it acts more forcibly, it ſerves to wrinkle the Skin of the Forehead between the Eye-brows; as it happens when we frown, or knit them.

X.

Of the Occipito-Frontalis.

THIS Muſcle ariſes fleſhy from the tranſverſe Line of the *Occiput*, oppoſite to Part of the ſuperior Termination of the *Maſtoidæus*, and Part of the Beginning of the *Trapezius* next it; and then tendinous from the reſt of that Line backwards, ariſing after the ſame manner on the other Side; from thence it goes ſtrait up; and ſoon becoming all tendinous, it covers the parietal Bones, and the *Oſſa ſquamoſa*, above the temporal Muſcles; its outer Edge being faſten'd to the *Os jugale* on each Side.

XI.

This broad Tendon near the coronal Suture grows fleſhy, and deſcends with ſtreight Fibres as low as the *Muſculi orbiculares*, and ends in the Skin at the Eye-brows.

XII.

XII.

This Muſcle ſends off, from its lower Part between the Eyes, a narrow Muſcle (which Dr. *Douglas* calls an Elongation), that paſſes over the Bones of the Noſe, as far downward as the End of the cartilaginous Part, where its Fibres run off on each Side, and end in the Skin above the *Muſculus Naſi proprius*: The Office of the *Occipito-Frontalis* is to pull the Skin of the Head backward, drawing up the Eyebrows, whereby the Skin of the Forehead is wrinkled. The Power of moving this Muſcle is much greater in ſome than in others, ſo as to be able to ſhake off their Caps; and the ſame may be ſaid of the Muſcles of the outer Ear; for Nature deſign'd ſtrong Motions to all theſe Parts, if the Manner of binding up Infants Heads did not deprive them of their natural Actions, ſo as to leave them in almoſt paralytic State.

XIII.

OBSERVATION.

Although the *occipital* and *frontal* Portions of the laſt deſcribed Muſcle are by Mr. *Cowper* accounted a Continuation of each other, yet he confeſſes he follows the Cuſtom of other Authors, by calling the Fore Part the *frontal* Muſcle, and giving the Name *Occipito-frontalis* to the poſterior Portion only; continuing the two Names, in order as much as poſſible to avoid Innovation, whereby he makes ſome Confuſion of Names. However, although they are really but one

one Muſcle, only having one of its fleſhy Parts forwards, and the other backwards, I ſee no Reaſon why they might not have their Appellations continued from their Situations, with this Difference only, that, inſtead of accounting them ſeparate Muſcles, they ſhould be only properly ſpeaking, the *frontal* and *occipital* Portions of the ſame Muſcle. And indeed that accurate Anatomiſt Dr. *James Douglas* has juſtly call'd them the *Occipito frontalis*, as one *digaſtric* Muſcle, having a Belly of fleſhy Fibres before and behind; and ſeparately deſcribed the true *frontal* Muſcle having its Origination from the Proceſs of the *Os Frontis* mention'd before, and terminating in the anterior fleſhy Part of the former.

XIV.

And although this *frontal* Muſcle (or *Corrugator* of *Coiter*, who firſt diſcover'd it) is the ſame that *Cowper* calls the internal fleſhy Production only of the *frontal*, yet *Cowper* declares he ſees no Reaſon to make them diſtinct Muſcles; which I own ſurpriſes me, ſince their Fibres have a different Direction and Office, from the anterior fleſhy Part of the *Occipito-frontalis*.

XV.

As to the Actions of the true *Frontal*, or *Corrugator Coiteri*, I muſt diſſent from all Authors in one Particular; it is ſaid, that this Muſcle ſerves to pull down the Skin of the Forehead, after it has been wrinkled. Now, let any one, by moving the *Occipito frontalis*, pull up the Eyebrows, and wrinkle

 the

the Forehead, the Reſtitution of it will appear to him, as it does to me, to be ſpontaneous immediately upon the Remiſſion only of the Action of the *Occipito frontalis:* Whereas the true *frontal* Muſcle of *Coiter* and *Douglas* can act no otherwiſe, than in drawing together the Eye-brows downwards and inwards, as in Frowning; for the Fibres of this Muſcle are directed from their Originations obliquely upwards and outwards; and, conſequently, when they are contracted, they can have no other Motion towards their Origination than in the oblique Direction juſt mentioned; for their Action is ſucceſſive to the ſpontaneous Reſtitution of the Skin of the Forehead, after being wrinkled.

XVI.

Of the Muſcles *of the* Eye-lids.

THE Eye-lids have only two Pair of Muſcles amongſt Authors; the *Aperiens Palpebram rectus*, and the *Orbicularis Palpebrarum*: The former of which being proper to the upper Lid, and the latter being common to both upper and under, was the Reaſon of theſe diſtinct Names. But to theſe I ſhall now take the Liberty to add a third Pair, and call each the *Occludens Palpebram*, which conſiſts of thoſe Fibres that cover the upper Lid, diſtinguiſh'd from thoſe of the *Orbicularis* both in Situation and Office, as explain'd in the following Obſervation. And as to Fibres of the under Lids, they are inconſiderable, ſerving for no other Uſe, that I know of, but

but to render them of a ſufficient Thickneſs to match the Edges of the upper Eye-lids, when they paſs over the Eye, and come into Contact with them. *Santorini* diſtinguiſh'd indeed the Fibres upon the Lids from the circular Fibres of the *Orbicularis*; but ſays, their Motion or Action is at the ſame Inſtant: Which Miſtake we ſhall rectify in the following Obſervation. He alſo makes the *Occipito-frontalis* run downwards over Part of the *Orbicularis*, and ſink into it about the *Supercilia*; blending with each other between the inner *Canthus* and the Noſe.

XVII.

The *Aperiens Palpebram rectus* ariſes narrow from the upper Part of the Hole of the *ſphœnoidal Bone*, thro' which the *Optic Nerve* paſſes between the Originations of two of the Muſcles of the Eyes, *viz.* the *Attollens* and the *Obliquus major*, and ends broad and tendinous in the Edge of the upper Lid, and ſerves to draw it up; whereby the Eye is open'd. This, with a little Portion, by ſome call'd the *Ciliaris*, are hid under the *Orbicularis*; and therefore I have repreſented it in this Drawing of a Preparation, made on purpoſe, of all theſe Muſcles together in two different Views, which will give a juſt Idea of their Structures and Actions. *See* TAB. I. *Fig.* 2, and 3.

XVIII.

The *Orbicularis* * ariſes tendinous and fleſhy from the Edge of the *Os maxillare*, that makes the lower Part of the Orbit at the inner Angle of the Eye. Its Fibres are ſpread upon the under Lid, and a great Part of the *Os Mali*, and, running round the little *Canthus*, they are continued, Authors ſay, over the upper Lid, and upper Part of the *Orbit* at the great Angle adhering to Part of the *Os Frontis*, and ſuperior Proceſs of the *Os maxillare*. This Muſcle, ſay they, draws the two ciliary Edges together, and ſhuts up the Eye.

XIX.

Observation.

It is no difficult Matter to conceive how the Eyelid is opened; becauſe there is a fixed Point to which it is drawn back by the Contraction of the *Aperiens Palpebram*: For, altho' the Origination of this Muſcle is rather behind the Eye than above it, as being at the Bottom of the Orbit, yet the End of pulling up the Lid is anſwer'd, ſince the Ball of the Eye ſerves its tendinous Expanſion as a *Lever* or *Pulley*, whilſt the fleſhy Fibres behind are contracted, to favour its Aſcent, as well as if its Origination was in a right

* Moſt Authors, and particularly *Cowper* and *Douglas*, make this Muſcle but one circular Muſcle; but *Spigel.* and *Riolan.* divide it into two, the upper and under, and give them Attachments at either Angle of the Orbit, to which *Diemerbroeck* ſubſcribes.

right Line over it from the frontal Bone: But the Motion of the *Orbicularis*, which is often compared to a *Sphincter*, is more difficult to underſtand, and yet ſlightly paſs'd by without any Notice. Mr. *Cowper* only ſays, This Muſcle, acting like the *Sphincters* of other Parts, conſtringes the Eye-lids; and this ſeems the general Notion of all Anatomiſts. Let us, however, attempt to explain this moſt wiſe Contrivance for the Motion of the Eye-lids, in the following Manner:

XX.

We may very ſecurely affirm, that there is no Analogy between a *Sphincter* and the *Palpebram Occludens* (for ſo we ſhall venture to call it for the future). For, altho' there is an Appearance of a circular Direction of the Fibres, above and below the Eye-lids, in the expanded Part or *Orbicularis*, yet the Fibres upon the Eye-lids themſelves have no ſuch Appearance: They have Attachments to the *Canthus* on each Side, and the Direction of their muſcular Fibres is, in ſome meaſure, parallel to the Lids, tho' upwards ſomewhat curved; otherwiſe the upper Lid would not be capable of ſhutting down upon the under; for it is this Lid alone that is lifted up from the under, the latter having no need of a Muſcle to draw it down, but is naturally confined below the Convexity of the Globe of the Eye, and is never capable of paſſing up even to the equatorial Point with its ciliary Edge; whereas any one may obſerve, that the ciliary Edge of the upper Lid (in ſhutting the Eye) is carried down far below that Point; and, ſtraitning itſelf below the Convexity, forms a perfect concave

concave Cap over the Globe when it meets the under Lid; which in full-ey'd People is very conſpicuous, and well worth obſerving. The Manner of the upper Lid's being drawn down is this:

XXI.

The two fixed Points of the ciliary Edges are a conſiderable Way below, and parallel to, the Equator of the Globe of the Eye; conſequently, when the muſcular Fibres of the upper Lid (which, whilſt open, form Curves of a certain Dimenſion) contract themſelves, they will endeavour to form ſtrait Lines by being ſhortened: This Tendency to become ſtrait will force each ciliary Edge over, and beyond, the *Equator*, even to form an inverted Arch below it; for, when once it is forced over the Globe thus far, it will naturally paſs a little further, ſince the Convexity diminiſhes before it all along, to its utmoſt Contraction. *See* TAB. I. *Fig.* 4.

XXII.

I have been thus willing to explain the Manner of the Occluſion of the Eye, which I hope is clear to you, Gentlemen; *firſt*, Becauſe *Santorini*, in his Figure of the Face, makes the Eye-lids meet upon the very *Equator* of the Eye-ball; and others ſeem to think, that the upper Eye-lid moves not much more than the under: And, *ſecondly*, to ſhew how widely different the muſcular Fibres of the Lids are, in their Situation and Action, from thoſe of a *Sphincter* (which is *Cowper's* Opinion) whoſe Office is to purſe up any Part round which they are placed,

as

as the Mouth, Bladder, *&c.* when they act without Reſtraint; and therefore, ſince thoſe circular Fibres, which alone are to be call'd the *Orbicularis*, can only act by purſing themſelves up round, they have no Share in ſhutting the Eye, which is done by the bringing down of the upper Lid alone, as I have ſaid already; and, conſequently, only ſerve to draw together the Skin of the Face all round, cloſing up the Eye with more Violence, and at the ſame time diſtorting the Face; for the Eye-lids are naturally ſhut down, without the leaſt Diſcompoſure of the Countenance; whereas this Motion of the *Orbicularis* is one of the Expreſſions of Pain and Anguiſh; or uſed to defend the Eyes from Duſt, or the glaring Rays of the Sun when the Eyes are weak.

XXIII.

Another ſhort Obſervation, worthy of Note, is, that no one can lift up the Eye-lids to their utmoſt Height, without looking upwards, that is, without raiſing up the *Pupil* of the Eye at the ſame time, except a particular Paſſion urges the contrary; becauſe the Muſcle which lifts up the Lid, when there is an Intent to raiſe it very high, draws the *Muſculus attollens*, or *Elevator* of the Eye, into Conſent, and makes it act too; for they both ariſe from Points that are very near each other; and the *Aperiens Palpebram* lies upon the *Attollens*, or *Elevator* of the Eye, in its whole Length. And this Conſent between them is reciprocal; the ſole Reaſon for it being, that, when there is a Neceſſity of looking up at an Object, the Lid ſhould be pull'd up out of the Way.

XXIV.

Now, notwithſtanding this wiſe Contrivance that appears in the Conſent of theſe Muſcles upon opening the Eye, there is a Circumſtance, wherein the *Elevator* of the Eye acts in pulling the *Pupil* upwards, when the *Aperiens Palpebram* does not act at all, but continues ſhut; and that is, when one ſhuts the Lids, in order to ſleep; for, in that Caſe, the *Pupil* is turned up, as if Nature intended, that, whilſt the upper Lid is drawn down, the *Pupil* ſhould be intimately covered, by being turned up under it, leſt any Rays of Light might ſtimulate the Eyes, and impede the ſweet Refreſhment, which is ſo neceſſary after Buſineſs and Fatigue. This is the Caſe with all who ſleep with their Lids cloſe; and as to thoſe who ſleep with them open, it is very apparent in them; for, whoſoever takes notice of ſuch while they ſleep, will find, that nothing is ſeen but the White of the Eye; and, upon awaking them, will eaſily ſee the *Pupil* turning down, as the Lids open.

XXV.

Muſcles *of the* Eyes.

THE Eyes have ſix Pair of Muſcles, three Pair to each, which are, the *Elevator*, *Depreſſor*, *Adductor*, *Abductor*, *Obliquus ſuperior*, *Obliquus inferior*; which, altho' they cannot be ſaid to contribute aught to the Formation or Geſture of the Face, yet they have no ſmall Share in the Expreſſion of the Paſſions of

of the Mind upon the Countenance, by the different Motions they give the Eyes, in Conſent with the Muſcles of the Face, upon particular Occaſions.

XXV.

The *Elevator* ariſes tendinous and fleſhy from the Edge of the *Foramen lacerum* near the *Abductor*, terminates into the upper and fore Part of the *Tunica Sclerotis* of the Eye, by a thin Tendon, and ſerves to raiſe up the Globe of the Eye.

XXVI.

The *Depreſſor* ariſes tendinous and fleſhy from the lower Edge of the Hole that gives Paſſage to the optic Nerve, is inſerted by a thin Tendon into the ſame Coat oppoſite to the former, and ſerves to draw down the Globe of the Eye.

XXVII.

The *Adductor* ariſes tendinous and fleſhy from the Edge of the Hole of the optic Nerve, between the *Obliquus major* and the *Humilis*, ends in the ſame Coat towards the Noſe by a thin Tendon, and pulls the Globe of the Eye that Way.

XXVIII.

The *Abductor* ſprings from the *Foramen lacerum* without the Orbit of the Eye, and is inſerted into the ſame Coat, called *Sclerotis*, againſt the former, whoſe Office is to draw the Eye from the Noſe.

XXIX.

The *Obliquus ſuperior* has its Riſe from the Edge of the Hole through which the optic Nerve paſſes, between the *Elevator* and *Adductor*, runs along the *Os planum* upwards, paſſing thro' the *Trochlea*, a little Pully fixed to the frontal Bone, and, doubling downwards again, is fixed by a thin Tendon into the ſame Coat, behind the tendinous Expanſion of the *Elevator*, whoſe Office is to incline the Eye forwards, with its *Pupil* downwards.

XXX.

The *Obliquus inferior* ariſes tendinous from the Edge of the Orbit, where the *Os maxillare* joins the *Os Mali*, and ends backwards and inwards between the optic Nerve and the Tendon of the *Abductor*, drawing the Eye forwards, and inclining the *Pupil* upwards.

XXXI.

Observation.

Altho' the Eye is ſaid, in our Deſcription, to be drawn this or that Way (and it is indeed the Language of all Anatomiſts) according as the Muſcle acts; yet, ſtrictly ſpeaking, it is only turned or rolled this or that Way, as a moveable Ball in a Socket; by which Motion it is the *Pupil* alone that can be ſaid to change its Place, as a Spot upon a Globe, whoſe Situation is alter'd by the Motion of ſuch a Body round its *Axis:* So that, ſince the Eye is moved only for the ſake of Viſion, when the *Elevator*, for Example, is contracted, by drawing the Place of the Globe,

Globe, to which it is attached, backwards, its Spot or *Pupil* turns upwards; and again, when the *Depreſſor* is contracted, by drawing its fixed Point backwards, the *Pupil* is turned downwards. The ſame may be ſaid of the other Muſcles that move the Eye; for, as the four firſt have their Riſe very near one another, the Eye with theſe four Muſcles in their natural Situation, make the Figure of a Cone, whoſe *Baſis* is forwards, and the *Apex* backwards; and therefore each, when it is reſpectively contracted, muſt neceſſarily pull the Place of its Attachment backwards, and ſo move the *Pupil* upwards, downwards, to the Noſe, or from it; and the Buſineſs of the oblique Muſcles is the ſame, except what regards the Points of their Vellication, whereby they are pulled in an oblique Direction to the four ſtrait Motions mentioned above.

XXXII.

The Eyes are capable of a rotatory Motion, which Authors have aſcribed to the Power of the oblique Muſcles; but every other Muſcle of the Eye contributes to its Rotation as well as theſe, which of themſelves can do no more than the Office aſſigned them in the above Deſcription; but that Motion is thus perform'd: Let any one look upwards at the Centre of an horizontal Line, on a Wall, of ſeveral Feet long; he will have it in his Power to carry his View along that Line to the right or left, to either Extremity, without moving his Head. Now the *Elevator* of each Eye elevates the *Pupil* to the central Point of Viſion mention'd:

But the Queſtion is, How the *Pupils* are carried to the Extremities of the Line? To anſwer this, let us conſider the State of the Muſcles: The tendinous Attachments of the four ſtrait Muſcles are broad and thin, where they are fixed to the *Sclerotis*; ſo that the Edge of one Expanſion is very near that of the other all round the Globe; and the fleſhy Fibres from them alſo are diſpoſed in a thin flat Order backwards, until they approach the Bones from whence they ariſe; where, for the Convenience of their Attachment, they are ſqueez'd cloſer together than when they firſt quit the Globe: From this Poſition they may be ſaid to form a hollow Cone, having the optic Nerve as their *Axis*. See TAB. II. *Fig.* 2. *a*.

XXXIII.

Now, ſuppoſe the Sight fixed to the Middle of that Line above mention'd, by the *Elevator* of each Eye, and it was reſolv'd to carry it along the Line to the right; then the Fibres on the left Side of the *Elevator* of each Eye would remit their Actions, and thoſe of the right Side of each Muſcle contract more ſtrongly, until they are ſucceeded and aſſiſted by as many of the neighbouring Fibres of the *Abductor* of the right Eye, and the *Adductor* of the left, as will ſerve to maintain the View all along the Line to the Extremity on that Side, and *vice verſa*.

XXXIV.

But if a Circle was deſcribed in a vertical Plane, and it was reſolved to carry the Sight all

all round it, to the right or left; then ſuppoſing one, for Example, begins at the Top, and proceeds to the right, every individual Fibre ſucceeds the other on that Side in both Eyes, till the laſt of the one Muſcle, as it were, delivers over its Office to the next Fibre of its neighbouring Muſcle, until the Rotation is carry'd all round as oft as the Perſon pleaſeth: Now in this rotatory Motion, the oblique Muſcles ſeem to me to have very little Share.

XXXV.

Hence it appears, that, in moving the *Pupil* upwards, downwards, or to either Side, all the Fibres of each Muſcle ſerving to theſe Motions act together; but if any other Motion is required between theſe, Part of the Fibres of one may join and aſſiſt Part of thoſe of its neighbouring Muſcle, in order to perform it: And this will further appear, if we do but conſider, that when, for Example, the *Obliquus ſuperior* of either Eye acts, it ſerves to incline the Eye forwards towards the Noſe, with its *Pupil* downwards; and, of conſequence, the *Pupil* of the other Eye muſt be carried from the Noſe, and downwards too; which can be done no other Way than by the Combination of Part of the Fibres of the *Abductor*, with ſome of thoſe of the *Depreſſor* next them.

XXXVI.

If, without moving the Head, one would endeavour to deſcribe a circular Line with the *Pupils* of the

the Eyes, it can ſcarce be done truly circular, becauſe one is apt to fix upon different Points ſucceſſively, from each of which the Eye makes a right Line, and therefore would rather deſcribe a Polygon than a true Circle, from the Intermiſſions we are apt to make in purſuing ſuch a View; but if one looks at the Images of his Eyes in a Mirror, without moving his Head, and the Mirror be moved to deſcribe a Circle, then the Eyes will have a true Rotation, without the leaſt Intermiſſion whatſoever; or if the Mirror be fixed, and one deſcribes a Circle with one's Head, keeping the Eyes fixed upon their Image, the ſame will happen.

XXXVII.

Authors have given other Names to the Muſcles of the Eyes, beſides theſe mentioned above: The *Elevator* is called the *Superbus*; the *Depreſſor*, the *Humilis*; the *Adductor*, the *Bibitorius*; the *Abductor*, the *Indignatorius*; and the oblique Muſcles, *Rotatores* and *Amatorii*. How far theſe Names are juſtly or improperly applied, will appear in our Explanation of the Figures which repreſent the Paſſions; however, we ſhall here make an Obſervation relating to ſhort-ſighted Eyes, and ſuch as ſquint.

XXXVIII.

When the Eyes are very convex, their focal Diſtance is very ſhort; and therefore, when they view an Object, it is put to the Eyes, and generally held on one Side; for, by holding it thus, they can have a clearer

a clearer Sight of the Object, than if held right before them at equal Diſtances from both Eyes; becauſe the *Adductor* of each Eye is violently ſtrain'd and contracted, in order to draw both *Pupils* to the Object, which is troubleſome; and it is only in this Caſe that theſe two Muſcles act together as Antagoniſts to the two *Abductors*, and bring them to ſquinting; whereas, when the Object is held a little ſideways; tho' the *Pupil* is brought near the Noſe on one Side, that of the other will be carried in ſome meaſure from it on that Side towards which the Object is held, and thereby the proper Muſcles will act together; that is, the *Adductor* on one Side will act in Concert with the *Abductor* on the other, and *vice verſa*, altho' not ſo perfectly as when the Convexity of the Eyes is more natural. The ſame ſquinting Diſtortion will happen to any one who places an Object too near his Noſe. Now the Reaſon why the *Pupils* of the Eyes muſt follow one another in viewing Objects, is, becauſe the Mind can attend to no more than one Object at a time; and ſince one Eye cannot diſcern ſo well as both together, let the Object be placed where it will, thoſe Muſcles, whoſe Contractions ſerve to conduct both *Pupils* towards it, are only employed by the Will: And hence it is, that the *Abductors* can never both act together according to the Will; for one Eye in that Caſe would be intirely uſeleſs, and the Aſpect of the Perſon unnatural and unſeemly beſides. *Ariſtotle*, in his third Section, and firſt Problem, makes a Query, why the Eyes act together? and anſwers, That it is becauſe the Motion of both has one and the ſame Principle; which is, ſays he, the

the Conjunction of the optic Nerves. *Galen*, and many Authors ſince, had the ſame Way of thinking: but how ſtrange it is, to find Authors ſeeking for the Cauſe of the uniform Motions of the Eyes in the optic Nerves, which, every one muſt allow, ſerve not to promote any Motion at all, nor have they any other Office than to promote Viſion alone; whereas the Eyes are moved by the third Pair of Nerves, which go to the Muſcles, and ſerve to move them, and are therefore called the *Motores Oculorum*; which move them uniformly, for the plain natural Reaſon juſt given; and howſoever the Union or Conjunction of the Optics may be, or any other Conſtitution of them, there can be nothing intended by ſuch Circumſtances, but the Welfare and Security of thoſe Organs, which, in every other Part of Nature we daily ſee has been the benevolent Care of our GREAT CREATOR. But further, many are found to have no Conjunction of the optic Nerves, and yet have neither ſeen Objects double, nor were their Eyes irregular in their Motions.

XXXIX.

Muſcles *of the* Noſe.

THERE are ſeveral of the Muſcles of the Lips, and other Parts, which are common to the Noſe, and but few that are proper to it: The latter are, the *Rinæus* or *Naſalis* of *Douglas*, or *Pinnarum Dilatator proprius* of *Santorini*, which ariſe fleſhy from the Extremity of the *Os Naſi*, and terminate in the intire Cartilage of the *Ala Naſi*, ſpreading

ing themſelves obliquely backwards: Their Office is to draw the *Ala* upwards and backwards, in order to dilate the Noſtrils, in which they are aſſiſted by the

XL.

Slips, *or* Elongations *of the* Occipito-Frontalis;

Which, as it is continued from thence *down* the Noſe, and dividing at the Middle, terminates on each Side, partly in the aforeſaid Muſcle, and partly in the Skin above it. This Slip I take to be proper to the Noſe, and ſerves to aſſiſt the former in its Office, and alſo to wrinkle the Skin of the Noſe, by drawing its lower Part upward; which happens in the Act of *Deriſion*, and in many when they laugh much. Beſides this, *Santorini* has mention'd another new Muſcle, which he calls *Muſculus novus tranſverſus*, which, like a Saddle, rides croſs the lower End of the Bones of the Noſe, and, running over the Inſertions of the *Rinæus*, terminate in the *Pyramidalis* on each Side. This Muſcle is ſo exceeding thin as not to be diſtinguiſhed in every Subject; and as its Uſe, from its Situation, can be only to wrinkle the Skin of the Noſe, it may well be ſpared, ſince that Office is well enough performed by the above-mentioned Muſcle, and by another *Slip*, which is a Companion to the *Pyramidalis*, whoſe Fibres run parallel to the Noſe, from the great *Canthus* of the Eye, and is inſerted into the upper Lip, and in the *Ala Naſi* on each Side.

The next we ſhall take notice of, are

XLI.

The Muſcles *of the* Lips.

AS the Cheeks have no Motion of their own, being only moved in common with ſome one or more of the Muſcles of the Lips or Jaws, we ſhall give our Deſcription of the *Buccinator* a Place with the Muſcles of the Lips; and as to the Formation of the Cheeks, they cannot be ſaid to be formed of the *Buccinator* or *Quadratus Genæ* alone, for all thoſe that move the Lips contribute to it alſo; and whatever Motion the *Buccinator* may be ſaid to have, it is proper to the Lips and Mouth alone, and not to the Cheeks. —— Now the Mouth being the central Point, from which all the Muſcles that move the Lips, as it were, radiate, the firſt that ought to be deſcribed is the *Orbicularis*, by ſome called the *Oſculatorius*, and by others the *Sphincter Labiorum*; becauſe whatſoever Muſcle moves of thoſe round about it, the ſpontaneous Form of this is inevitably alter'd; we ſhall therefore firſt deſcribe

XLII.

The Orbicularis.

Notwithſtanding that the natural Poſition of the Lips makes not a circular Form, yet the Fibres of this Muſcle go round it; however, they cannot properly be ſaid to be orbicular, or be likened to a Ring,

Ring, on any account; altho' their Action is only to purſe up the Mouth, as in whiſtling and blowing.

XLIII.

The *Elevator Labii inferioris proprius* ariſes from the lower Jaw, near the Gums of the fore Teeth, and ends in the Skin of the Chin, which, with the lower Lip, it draws upwards.

XLIV.

The *Elevator Labii ſuperioris proprius* ariſes from all that Portion of the *Os maxillare* that makes the lower Part of the Orbit, above the Hole that tranſmits the Nerves and Arteries to the Cheeks, and ends in the upper Lip: This is what *Santorini*, and other Authors, call the *Pyramidalis*, which ſerves to pull the upper Lip upwards on each Side.

XLV.

The *Depreſſor Labii inferioris proprius* ariſes fleſhy from the lower Part of the Chin, and is inſerted into the under Lip, and ſerves to pull it downwards and outwards.

XLVI.

The *Depreſſor Labii ſuperioris proprius* ariſes thin and fleſhy from the *Os maxillare*, immediately above the Gums of the *Dentes inciſivi*, and ends in the

upper Lip, pretty high under the Noſe; which it ſerves to draw downwards.

XLVII.

The *Elevator Labiorum communis* ariſes thin and fleſhy from the Hollow of the *Os maxillare*, under the great Hole, and ends in the Angle of the Mouth. *Santorini* calls this, *ſeu Caninus extra Oris Rictum terminatus*; its Uſe is to bring the Corner of the Mouth upwards on each Side.

XLVIII.

The *Depreſſor Labiorum communis*, or *triangularis*, ariſes broad and fleſhy from the lower Edge of the lower Jaw, between the *Latiſſimus Colli* and the *Maſſeter*; it is alſo inſerted into the Angle of the Mouth, decuſſating with ſome of the Fibres of the following Muſcle, and ſerves to pull down the Corners of the Mouth.

XLIX.

The *Zigomaticus major* ariſes fleſhy from the *Os Mali*, near its Conjunction with the Proceſs of the temporal Bone, runs down obliquely towards the Angle of the Mouth, over the Inſertion of the ſalival Duct into the *Buccinator*, and, ſpreading, joins the End of the former Muſcle, about the *Rictus Oris*. Its Office is to pull the Angle of the Mouth obliquely upwards.

L.

The *Zigomaticus minor* ariſes from the ſame Bone, forwards of the former; and ends under the *Pyramidalis*, and ſerves to aſſiſt in the Elevation of the upper Lip.

LI.

The *Riſorius* is a flat Bundle of Fibres, which ariſes near the Angle of the Jaw from the Skin over the parotid Gland, and is inſerted into the upper Part of the *Triangularis* near the *Rictus Oris:* It lies before the upper Part of the *Quadratus Genæ*; and ſerves to draw the Angle of the Mouth gently backwards.

LII.

The *Buccinator* ariſes from two different Places, that is, from the moſt remote Part of the lower Jaw, between the laſt Tooth and the *coronoid* Proceſs, and from between the laſt Jaw-Tooth of the *Maxilla ſuperior*, and the *Pterigoidal* Proceſs: And, running forwards broad, is inſerted at the Angle of the Lips into the *Orbicularis*, behind the *Triangularis* and *Zigomaticus major*. It ſerves to ſeveral Purpoſes; firſt, to ſqueeze againſt the Gums, in order to direct the Victuals while we chew, both between the Teeth, and thence into the Cavity of the Mouth; and, *2dly*, to aſſiſt in forming the Face for Laughter. Now

in

in ſmiling, the *Riſorius* is ſufficient of itſelf; but, when great Laughter is promoted, the *Buccinator* takes the whole Action to itſelf, which is begun by the former, and pulls the Corner of the Mouth on each Side, and ſtretches the Lips prodigiouſly, according to the Degree of Laughter required.

LIII.

Of the Quadratus Genæ, *or* Latiſſimus Colli.

Notwithſtanding this Muſcle is not among the Muſcles of the Lips, we ſhall mention it here as a Muſcle which belongs partly to the Face. It ariſes thin, with ſome membranous, and ſome fleſhy Fibres, from the *Sternum* or Breaſt-Bone, the *Acromion* of the *Scapula*, and from the intire Space between them occupied by the pectoral and deltoid Muſcles, and is inſerted partly into the lower Jaw, partly into the *Buccinator* Muſcle, and partly by a thin Membrane under moſt Part of the Skin of the Face. It ſerves, according to the Opinion of Dr. *Douglas*, to draw the Skin of the Face downwards, and to aſſiſt the Digaſtric in opening the Jaws. This laſt Office is denied by *Heiſter*, and ſome others; but, as there is a ſtrong Inſertion into the lower Jaw of the moſt conſiderable Part of this Muſcle, I cannot but join with the former, in the Opinion that its chief Office is to open the Jaws: For the Fibres which go to the Skin of the Face are very ſlender and weak; inſomuch that, in many Subjects, they are not to be diſcerned at all. As to the Muſcles proper to the lower Jaw, *viz.* the *Temporalis* and *Maſſeter*,

ſeter, which pull it upwards, and the *Digaſtricus*, *Pterigoidæus internus*, and *Pterigoidæus externus*, which ſerve to draw it downwards, we ſhall omit their Deſcriptions here, ſince they do not come under the Subject we are at preſent confin'd to; which is only to treat of thoſe Muſcles alone, whoſe Motions are ſubject to the Influences of the Paſſions of the Mind, in altering the Countenance, or which ſerve to its Formation.

The End *of the* Firſt Lecture.

LECTURE II.

I.

Gentlemen,

Read Nov. 27. 1746. IN my Lecture of laſt *Thurſday*, I had the Honour of demonſtrating before you the Muſcles of the Face, and, at the ſame time, of explaining their ſenſible Motions, which was the firſt Thing I propoſed in my Preamble to that Lecture; it now remains to ſhew you which of theſe Muſcles act, in the ſeveral Motions of the Face that expreſs the different Paſſions of the Mind; for they ſerve two principal Ends, firſt, (altogether) to form the Symmetry of the Countenance, by ſupporting the Skin of the Face, in the Manner we ſee it when a general *Compoſure* appears thro' the Whole; and, ſecondly, to expreſs, as we have ſaid, thoſe Paſſions of *Joy*, *Grief*, *Fury*, *Ill-nature*, and ſuch-like, as the Mind is often prone to ſuggeſt; and may indeed be ſaid to become the Glory or Diſgrace of the Man, according as they obey the Dictates of the Mind in thoſe Caſes; or, in other Words, as they are moſt predominant.

II.

It is certain (whatever Streſs may be laid on that trite Phraſe "*Fronti nulla Fides*"), that, if we but duly conſider, what is a great Truth, that the Countenance is the *Nuncio* of the Mind, and only become well verſed in the proper Actions and Predominancy of its ſeveral Muſcles, we ſhall have a great deal of Reaſon to reverſe that Sentence; ſince alſo we muſt, from every Day's Experience, ſee a Face promiſe what we afterwards find to be the real Diſpoſition of the Perſon who wears it.

III.

PROVIDENCE is wiſe, in cauſing this to be ſo; and it has its conſiderable Uſes in Nature. Does it not *cheer* and *pleaſe* Society, to ſee an open cheerful Face among them? Does not a ſorrowful Aſpect move Mankind, who are naturally prone to Compaſſion? Does not a Countenance expreſſing Fear give Warning to others to prepare againſt the Danger? Does not a ſneering ſcornful Face warn us to beware of its Owner? And does not a ſurly, moroſe, or dogged Aſpect give Men Diſtruſt, forbid Friendſhip, and fill Societies with uneaſy Apprehenſions?

IV.

It was becauſe the Means of Self-Preſervation ſhould be generouſly diſtributed to us, that the prevailing Characteriſtics of Tempers ſhould be thus

conſpicuous in us; innumerable Inſtances of which are to be obſerved in every other Part of the animal World beſides: And even from hence we might naturally conclude it abſolutely neceſſary; but the Structures of theſe Parts, their ſenſible Actions, and the great Conſent between one Part of the Animal and another (from their nervous Communications), yet more plainly confirm this Concluſion.

V.

Whatſoever Sovereignty the Diaphragm is known to have in Reſpiration, which concerns the Circulation of the Blood in the greateſt meaſure, ſince the Seat of the Heart is formed upon that Organ in human Bodies, I am now almoſt confident, from many Scrutinies and Obſervations made upon it for ſeveral Years, that it has no ſmall Share in being a principal *Inſtrument* of receiving, and communicating the Impulſes of the *Will* to the ſeveral Parts which are deſtined for the Expreſſion or Publication of the Intention of that *Will* or *Mind:* Now, in order to prove this, let us only conſider, that, when an Object of Mirth offers to us, the Laughter, or quick Concuſſion of the Lungs, is begun by the Diaphragm; which is no ſooner ſet in Motion, to expreſs the Pleaſure conceived at it, than the Muſcles ſerving to form a Smile upon the Countenance, are immediately influenced, and a gentler, or more forcible Drawing of the Corners of the Mouth backwards is excited, according to the Degree of Mirth before us. Now, from the firſt Influence of the Diaphragm, when Grief is the Subject alſo, we plainly ſee, that the

the Muſcles, which are proper to expreſs that Paſſion, are alone actuated; and when it increaſes to an immoderate Weeping, there are not wanting Concuſſions of the Diaphragm here too, as well as in immoderate Laughter; ſo that there may be ſaid to be a reciprocal Commerce between the Diaphragm and the Muſcles of the Face, not only to demonſtrate theſe Paſſions, but indeed all others we ſee imprinted on the Countenance, by means of the nervous Sympathy between them.

VI.

From the *Phil. Tranſ.* N°. 153. *p.* 395, being an Extract of the twenty-fourth Diſſertation of *Spon's Recherches curieuſes*, &c. printed at *Lyons* 1683. in 4*to*. it is eaſy to ſee what a ſlight Foundation they formerly had for their Notions of the Matter: "We "learn, ſays he, the Uſe of ancient Medals, Pictures, "and Statues (of which *Varro*, *J. Cæſar*, and *Alex-* "*ander Severus*, were great Collectors) as relating "to other Studies, ſo eſpecially to Phyſiognomy, "Nature having imprinted in the Countenance cer- "tain Airs and Conformations, which diſcover the "grand Inclinations of the Mind. In this Art the "famous *Campanella* was a great Maſter, as Mr. "*Choner* relates in the Life of *Boiſet*. Hence "*Niſius Erythræus* tells us, that *B. Stephanius* the "Poet had the ſame Features with the Statues of "*Virgil*. Others obſerve, that *Numa Pompilius* "and *Antoninus Pius* reſembled each other in Face "and Manners; and that the Chancellor *Hoſpitalius*, "a great Philoſopher, was like the Figure of *Ariſtotle*.

" The Face of *Alexander Magnus* upon his Coins,
" his Eyes ſet high and great, with his Chin thruſt
" out, ſpeak him haughty, earneſt, and couragious,
" as *Plutarch* remarked from the Phyſiognomiſts.
" The frizzled Hair of *Pompey*, and his forward
" Countenance, ſhew his Stoutneſs and Ambition.
" The Temperament and Diſpoſition of *Julius Cæſar*
" is read in his Coins, as divers have obſerved, and
" at length Dr. *Andreas*, out of *Argoli: Marcus*
" *Antoninus*'s double Chin ſhews his Love of Plea-
" ſure. The Air of King *Juba* argues him cruel and
" arrogant. The good Features of *Auguſtus* declare
" an excellent Mind, a Mixture of Sweetneſs, and
" Prudence, and Courage. The little Eyes of *Nero*,
" his thick Neck, his Throat and Chin conjoin'd,
" were no good Signs to the *Romans*; and the Sta-
" ture of *Maximinus*, and narrow Chin, beſpake
" his Cruelty."

VII.

But all this kind of Doctrine of Phyſiognomy muſt very often deceive, becauſe it was taken chiefly from Incidents that happened during the Reigns and Authority of great Perſonages, who were very conſpicuous in their Stations, and who, conſequently, drew the Attention of theſe Obſervers upon themſelves. Thus when the Character of the Perſon was known, an Account of his Face was immediately taken, and a Standard laid down for every Perſon, who in any wiſe had a Reſemblance to it: As if the Length or Shortneſs of Noſe or Chin could be an Indication of the Diſpoſition of the Mind: But ſuch Obſervers

Obſervers ſhould have conſidered, that the general Form of the Face and Head is chiefly owing to the Structure of the Bones that compoſe them; and that a Perſon with a long Chin or Noſe, *&c.* may be either of a good or bad Turn of Mind; and, on the contrary, thoſe with the beſt proportioned Faces may be poſſeſſed of unhappy as well as happy Tempers: So that, let this be as it will, it is the Alteration of the Muſcles alone that is capable of demonſtrating the reigning Paſſion of the Mind upon every Kind of Face.

VIII.

Some Obſervers took their Indications from the Tints of the Countenance, and judg'd according to them; that is, from the Pale, Red, Livid, Brown, Yellowiſh, or Olive. But, however theſe may ſerve as Indications whereby to lead to the Knowlege of Diſeaſes, every Day's Experience ſhews they can give no Information of the Diſpoſition of the Mind; for there are, amongſt Men of all Hues, both good and bad, cheerful and dejected, and the like.

IX.

Ariſtotle, who has among his Works a particular Treatiſe upon Phyſiognomy, and which one would imagine has been the ground Work on which the Writers upon that Subject have raiſed all they have ſaid about it, has not omitted one Circumſtance that might in any wiſe help him in his ingenious Reſearches, but thoſe which alone could give the true Tokens

Tokens of the Diſpoſitions of the Mind, that is, the Actions of the Muſcles of the Face. He has drawn ſome injudicious Suppoſitions from the native Countries of Men; others, from the Strength or Weakneſs of their Limbs; others, from the Nature or Colour of the Hair; others, from the Shortneſs, Length, Hardneſs, or Softneſs, of the Fleſh and Limbs; and has laid great Streſs upon the Likeneſs of the human Voice to that of other Animals: Thus, if the Voice was loud and ſonorous, he compared the Perſon to a Lion, Bull, or barking Dog, according to their Differences; and if, on the contrary, the Voice was feeble and mild, he concluded the Perſon puſillanimous and fearful. If Women were ſtrong, healthy, and of good Conſtitutions, he declared them of a maſculine Nature; and if Men were weakly, he eſteemed them as having more of the Female Diſpotions than otherwiſe, and alſo drew ſome Remarks from the Size, Roundneſs, Length, Flatneſs, or Protuberance of the Face, without ever dreaming of the Uſe of the Muſcles belonging to it.

X.

The great *Lanciſius*, whom we have mentioned before, has wrote a particular Treatiſe, to his Friend *Fantonus*, upon this Subject, which he calls *Diſſertatio Phyſiognomonica*, and which he divides into two Parts; the firſt he calls *Chiroſcopia*, which treats of ſeveral Things relating to the Lines on the Palm of the Hand; as their Origin; why they are more in the Hands than the Soles of the Feet; three Kinds in

in the Palms; the Cauſes of the beſt and worſt Kinds, and of their Defects; with Prognoſtics drawn from them, and the like: The ſecond Part he calls *Metoposcopia*, which relates only to the Countenance, and is the leaſt conſiderable; wherein he chiefly conſiders the *Rugæ* of the Forehead, which he divides into three Kinds: 1. Such as are equal and ſtrait: 2. Such as are unequal and interrupted: 3. When they are but few and ſuperficial: And the only Conſequences he draws from theſe Wrinkles are, that the equal ones ſignify Strength and *Equilibrium* in the frontal Muſcles; the unequal ones the contrary; and very *truly* ſays, that if the Skin be thin and lean, there are more Wrinkles; if thick, a ſmaller Number; and, laſtly, when they are but few, and are ſuperficial, it ſhews, ſays he, great Weakneſs of the Muſcle. Now, from theſe Conditions of the Muſcles of the Forehead, he judges of the Condition of the Brain: if that be ſtrong, ſo is the Brain; if weak, the latter muſt be ſo too, and the like.

XI.

This Author places the Seat of the Soul ſomewhere in the fore Part of the Brain; and thinks he has found a new Part, which was never taken notice of before, and promiſes the Publication of it. He has nothing that particularly relates to a Demonſtration of the Paſſions of the Mind on the Countenance, but this general Notion: "It is not a diffi-"cult Matter (ſays he) to diſcern an angry Man "by his flaming Eyes; nor an envious Man by "their

" their Diſtortion and frowning; nor a fearful Man " by his Paleneſs and Trembling; nor a melancholy " Man, by his dark and dejected Countenance; nor, " in fine, a happy Temper, by a florid and cheer- " ful Aſpect." Indeed there is no great Art in ſeeing theſe Indications, which are obvious to the meaneſt Capacities; but how they are ſo, and the Reaſons for them, this great Man has not thought worth while to explain. The ſame may be ſaid of that great Maſter *le Brun*, who (in his *Abregé d'une Conference ſur la Phyſiognomie*, at the End of his Book of the Paſſions) lays great Streſs upon following the Traces of the Lineaments in the Faces of Brutes, in order to account for the Appetites and Paſſions of Men.

XII.

J. Bapt. Porta, who is well known to the Men of Science of all Nations, built his Syſtem of Phyſiognomy upon that of *Ariſtotle*; which he attempted to explain, in a Book intituled, *De humana Phyſiognomia, &c.* wherein he lays it down, as a certain Truth, that whoſoever has a Likeneſs in his Face to that of any other Animal (tho' never ſo remote), his Frame of Mind and Paſſions muſt be the ſame with thoſe of the Animal whoſe Reſemblance he bears: And accordingly, he makes exaggerated Figures of Mens Countenances like Lions, Tigers, Lambs, and other Creatures, with Remarks upon them, in order to give Weight to the Syſtem he lays down: But had he only ſtudied the Parts which conſtitute the Face, and their Obedience to the Impulſes of the Mind, he

he could not have perſiſted in a Method of accounting for its Paſſions, by comparing the Faces of Men to thoſe of Creatures, which can have no more Analogy to each other, than the forced Imaginations of his Brain could produce.

XIII.

Many of the Ancients were ſtrongly of Opinion, that Mens Faces diſcovered their Tempers: And this muſt have been founded chiefly upon a long Obſervation and Experience of the Tempers of Men with whom they had frequently converſed; for their Penetration in that Part of Anatomy had not gone ſo far, as at preſent it does with us.

XIV.

The Scholars of *Socrates* brought a noted Phyſiognomiſt, *Zopyrus*, to their Maſter, in order to try his Art; who viewing his Face for ſome time, having had no previous Knowlege of him, and after an Examination of his Aſpect, he ſoon pronounced him the moſt lewd, drunken old Fellow he had ever met with: The Diſciples mock'd and laugh' at him, as believing his Art of no Effect; but *Socrates* told them, he believed his Art might be true, notwithſtanding his preſent Miſtake, for that he himſelf was naturally inclined to thoſe particular Vices the Phyſiognomiſt had diſcover'd in his Countenance, but that he had conquered the ſtrong Diſpoſitions he was born with by the Dictates of Philoſophy.

XV.

Ovid was of this Opinion, as appears by this beautiful Paſſage;

Heu, quam difficile eſt, crimen non prodere vultu!

which the great *Addiſon* choſe for a Motto to the 86th *Spectator*, wherein he has the following refined Sentiments upon this Subject: "Every one (ſays "he) is in ſome degree a Maſter of that Art, which "is generally diſtinguiſhed by the Name of Phyſi-"ognomy; and naturally forms to himſelf the Cha-"racter or Fortune of a Stranger from the Features and "Lineaments of his Face. We are no ſooner pre-"ſented to any one we never ſaw before, but we "are immediately ſtruck with the Idea of a proud, a "reſerved, an affable, or a good-natur'd Man; and, "upon our firſt going into a Company of Strangers, "our Benevolence or Averſion, Awe or Contempt, "riſes naturally toward ſeveral particular Perſons, "before we have heard them ſpeak a ſingle Word, "or ſo much as know who they are.

"Every Paſſion gives a particular Caſt to the "Countenance, and is apt to diſcover itſelf in ſome "Feature or other: I have ſeen an Eye curſe for "half an Hour together, and an Eye-brow call a "Man Scoundrel. —— For my Part (ſays he) I am "ſo apt to frame a Notion of every Man's Humour "or Circumſtances by his Looks, that I have ſome-"times employ'd myſelf from *Charing-Croſs* to the "*Royal Exchange* in drawing the Characters of thoſe

"who

" who have paſſed by me: When I ſee a Man with
" a ſour rivell'd Face, I cannot forbear pitying his
" Wife; and when I meet with an open ingenuous
" Countenance, think on the Happineſs of his Friends,
" his Family and Relations. — I think we may be
" better known by our Looks than by our Words;
" and that a Man's Speech is much more eaſily diſ-
" guiſed than his Countenance. In this Caſe how-
" ever, I think the Air of the whole Face is much
" more expreſſive than the Lines of it: The Truth
" of it is, the Air is generally nothing elſe but the
" inward Diſpoſition of the Mind made viſible."

XVI.

This Maxim I am now about to prove to you in a few Words, by anſwering an Objection made to me on that Sentiment; " A Gentleman agreed with me, that the Muſcles of the Face obey'd and expreſſed the different Paſſions of the Mind occaſionally, but that, when the Cauſe of that Paſſion ceaſes, the Face reſumes its natural Poſition, and that Paſſion appears no more for that time."

XVII.

To this I anſwer, *1ſt*, That every Perſon has a particular *Bent* or *Diſpoſition* of Mind, which oftener reigns in him than any other; *2dly*, That this habitual Diſpoſition, cauſing the Muſcles of the Face, that are deſtined to expreſs it, frequently to act in Obedience to that Bent of Mind, brings on at length an habitual Appearance of that Paſſion in the Face,

and moulds it into a conſtant Conſent with the Mind. In the Courſe of my own Acquaintance, I know ſome Perſons who wear on their Countenances a continual Cheerfulneſs, Complacency, and Openneſs; and, by Experience, I know it to be their continual Diſpoſition of Mind: And, on the other hand, I alſo know ſome, on whoſe Faces a ſettled Moroſeneſs always ſtrikes the Beholder; and know it to be their own conſtant Plague, and that of thoſe among whom they come.

XVIII.

This need not be wonder'd at, nor indeed can it be denied; for that ſuch a Habitude of Countenance is eaſily acquir'd will appear certain, if we do but obſerve what happens every Day: We may take notice that among School-Boys, if there be one who ſtammers in his Speech, it will ſpeedily be acquir'd by the others; and I have known two Boys, whoſe Fathers were my Acquaintance, catch that Habit of ſpeaking at School, and have never yet been able to ſhake it off: I have alſo known a Youth catch a Habit of winking the upper Lid of his Eyes, quicker than the Seconds of a Clock, by having ſometimes ſeen an *Epileptic*, who frequented the Quarter where he lived; and I perſonally knew a Gentleman eminent in the Law, who ceſſantly winked with one Eye; and told me, to ſatisfy my Curioſity, that his Father had a Servant, when he was a Child, who had an involuntary Winking, which he had acquir'd, and which, notwithſtanding his having been ſent away to a diſtant School,

School, when his Parents had diſcover'd it, he never was able to ſhake off. Add to this, that there are many who acquire ſquinting Diſtortions of their very Eyes, by ſeeing others too often who are troubled with that Malady.

XIX.

Now what but a Habit, acquired by ſôme Muſcle or other, could have produced theſe Effects?

However, in order to be as fair and clear as I can, in the Proof of my Aſſertion, I will anſwer another Objection of the ſame Gentleman, which is all I ſhall at preſent trouble you with upon this Head.

XX.

Says my Friend, "I have known one of theſe crabbed ſour-faced Men look as agreeably as one could wiſh; and, on the other hand (ſays he), one of thoſe merry-faced Gentlemen put on a Countenance as full of Fury as poſſible." It is very true, I agree with him in this; and it is right it ſhould be ſo; becauſe every Perſon, of whatſoever Temper of Mind, ought to have a Power of altering it upon a neceſſary Occaſion, and of ſhewing his Approbation, or Diſlike, of any Affair that may chance to offer: But is the moroſe Man long pleaſed, or the happy Man long diſpleaſed? And does not each return ſoon to his former habitual Mind and Countenance, when the Occaſion of their Alteration ceaſes?

XXI.

XXII.

My Friend might have ſtarted other Objections, and which indeed are, in ſome meaſure, Exceptions to the general Syſtem I have laid down; but which cannot invalidate the leaſt Part of it, when the Reaſons for them are explain'd. *Firſt*, He may argue, that there are many *Maniacs*, who are in a conſtant State of Madneſs, and yet the Muſcles of the Face are in no-wiſe diſtorted, nor any other Appearance of Wildneſs in the Countenance than what the Eyes produce: But this happens only becauſe the morbid Madneſs is involuntary; whereas all the Paſſions of the Mind, which correſpond with, and actuate, the Muſcles of the Face, are voluntary, and, conſequently, draw the Muſcles ſubſervient to each particular one into Conſent. The Player, acting his Part with Judgment, is capable of producing theſe Effects; he can artfully put on the Grimace which beſt expreſſes or accompanies the Character he is to repreſent; as the Man, whoſe natural Temper alſo leads him to wear the Aſpect ſuited to his State of Mind, whatſoever it be; and as ſuch a one can occaſionally change his Aſpect, tho' but for a little time, from its cuſtomary State, it is plain, that the cuſtomary Paſſions of the Mind are firſt voluntary, and the Actions of their ſeveral ſubſervient Muſcles are ſo too: And, *2dly*, There can be no reigning Geſture of the Face diſcernable in *Idiots* expreſſive of any Paſſion; becauſe they can have no ſettled Intention to produce one, or render it cuſtomary in their general Conduct;

duct; whence it may be very juſtly ſaid, ſuch poor Creatures have unmeaning Countenances.

XXII.

From what I have hitherto laid down, and from the following Explanation of the Figures, I hope it will appear, that no Analogy can be drawn from Brutes, no Signs from the Voice, nor general Shape of the Face, or any of its Parts; in a Word, nothing but the Actions of the Muſcles, become habitual in Obedience to the reigning Tempers of the Mind, can in any wiſe account for them; and the Art of Phyſiognomy, eſpecially the *Metopoſcopy*, or what relates to the Face, muſt prove very uncertain without this Foundation.

TAB.

TABLE I.

FIG. I.

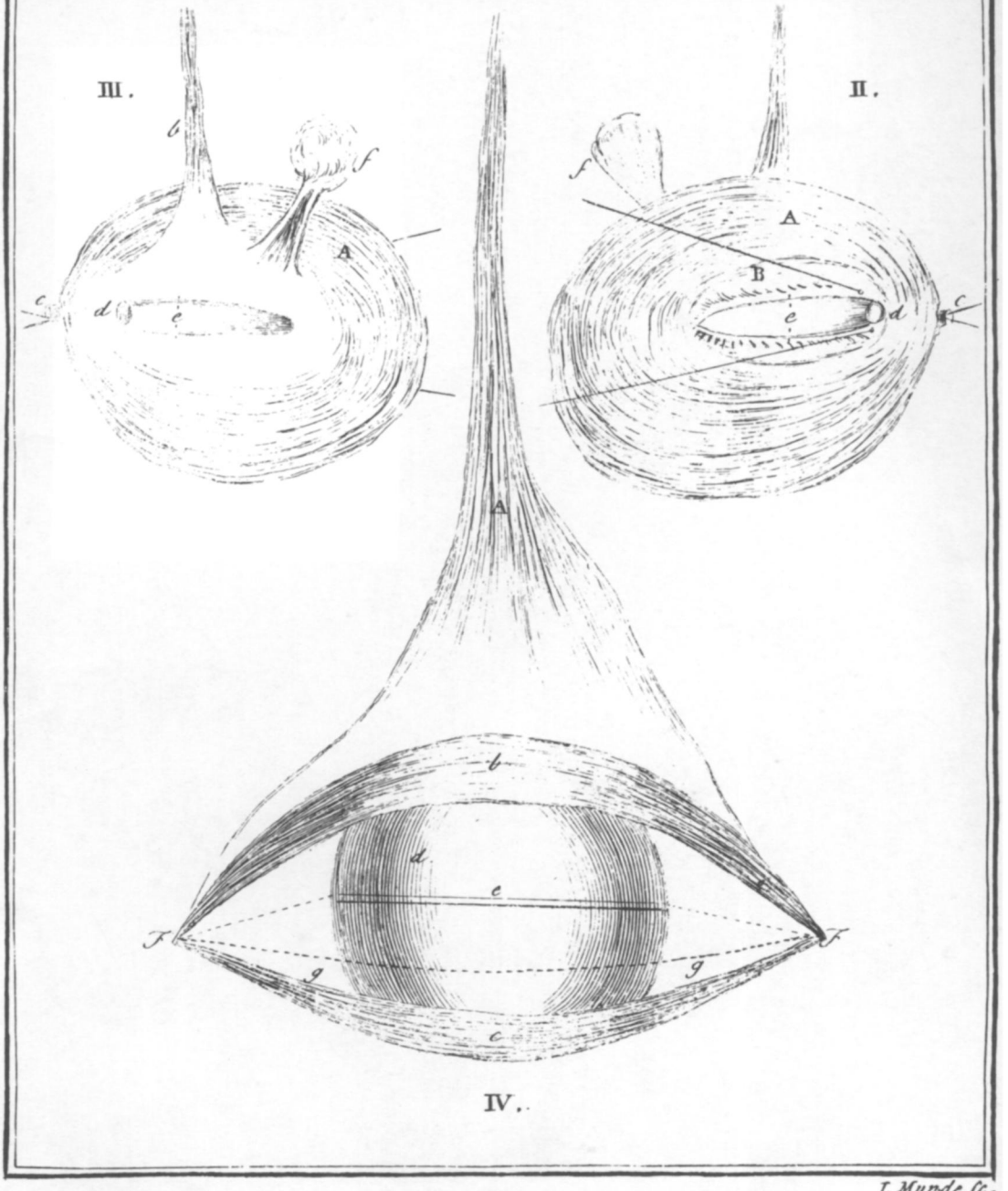
Shews a View of the Muſcles of the Face in Profil.

A, The anterior Portion of the *Occipito-Frontalis.*
B, The *Orbicularis* of the Orbit. *, The *Occludens Palpebram.*
C, The *Temporal* Muſcle.
D, The *Maſſeter.*
E, The Muſcle *Attollens Auris.*
F, The *Zygomaticus major.*
G, ——————— *minor.*
H, *Pyramidalis, ſeu Elevator Labii ſuperioris proprius.*
I, *Pyramidalis ſocius* Santorini.
K, *Elevator Labii ſuperioris proprius, ſeu Inciſorius* of *Cowper.*
L, *Elevator communis Labiorum.*
M, The *Oſculatorius.*
N, A Bundle of Fibres running down with the *Inciſorius* from the Bottom of the *Orbicularis.*
O, The *Ductus Parotidis*, or ſalival Duct.
P, *Glandula Parotis.*
Q, The *Buccinator* Muſcle.
R, The *Riſorius.*
S, The *Triangularis*, or common *Depreſſor Labiorum.*
1. The *Corrugator* of the Chin.
2. The *Depreſſor Labii inferioris proprius.*

TAB. I. I.



I. P.ᵗ MD. del.



J. Mynde sc.

3. The new tranſverſe Muſcle of the Noſe, of *Santorini.*
4. The *Rinæus* of *Douglas.*
5. The *Elongatio Occipito-Frontalis* of *Douglas.*
6. The *Narium Contractores.*
7. The *Quadratus Genæ*, *Latiſſimus Colli*, or *Platiſma Myoides.*
8. The Skin turn'd back.

FIG. 2.

Is a View of the Orbicular and Palpebral Muſcles, taken off from the Head.

A, The Orbicular Muſcle.
B, The *Occludens Palpebram.*
C, The lacrymal Ducts.
D, The lacrymal Gland.
E, The ciliary Ligaments.
F, The ciliary Portions.

FIG. 3.

Shews the Surface of the ſame Muſcles which lie next the Bones.

A, The *Orbicularis.*
B, The *Palpebram attollens.*
C, The lacrymal Ducts.
D, The lacrymal Gland.
E, The ciliary Ligaments.
F, The Portions ariſing from the Tendon of the *Attollens Palpebram*, called by ſome the ciliary Portions.

FIG. 4.

Is a Figure to explain the Motion of the Eye-lid. *See* Lecture I. Page 14.

A, The *Attollens Palpebram.*
B, The upper Lid.
C The under Lid.
D, The Globe of the Eye.
E, The *Equator* of the Eye.
FF, The fixed Points of the muſcular Fibres of the Lids, or *Occludens Palpebram.*
G, The Line of the upper Lid, when it paſſes towards the under Lid, over the *Equator*,

TABLE II.

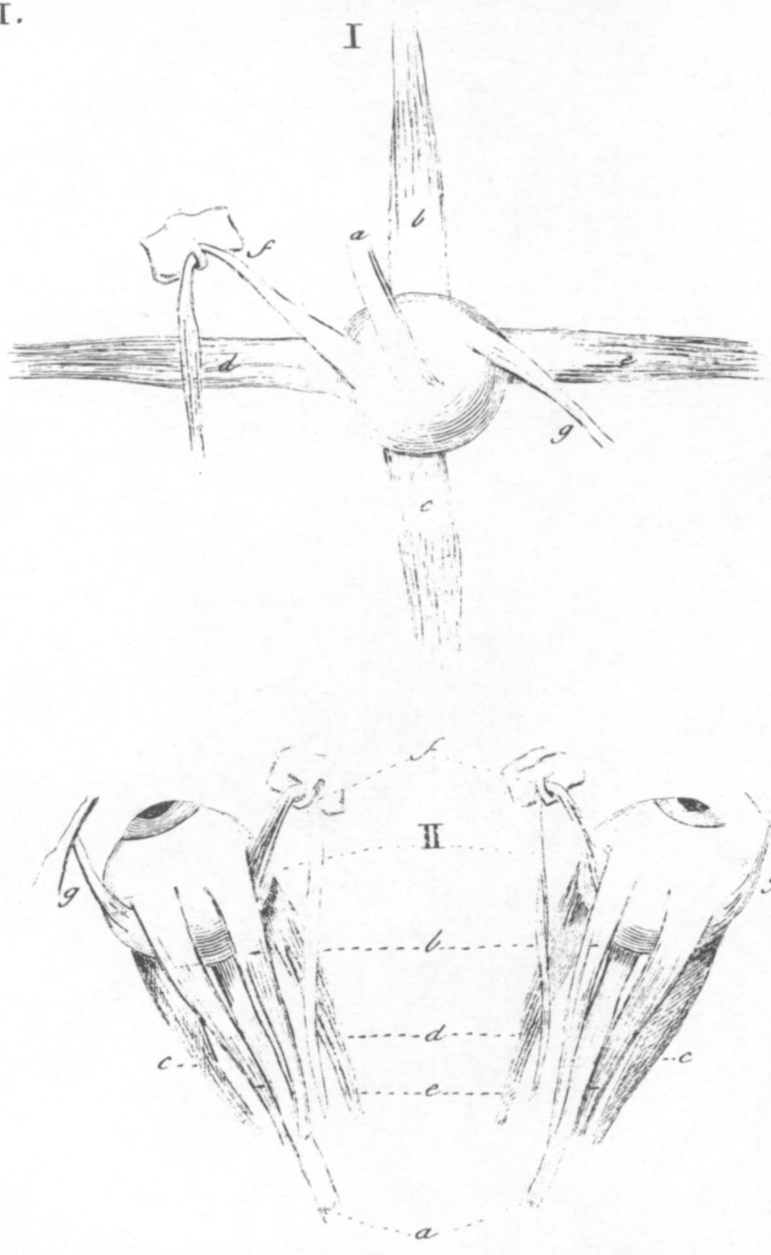
FIG. 1.

Repreſents a back View of the Ball of the Eye.

a, The Optic Nerve.
b, The *Muſculus attollens*, or *Elevator.*
c, The *Depreſſor.*
d, The *Adductor.*
e, The *Abductor.*
f, The *Obliquus ſuperior*, or *Trochlearis.*
g, The *Obliquus inferior.*

FIG. 2.

TAB. II.



I. P.J M. del.

3



J. Mynde sc.

FIG. 2.

Shews a View of both Eyes, with their Muſcles diſpoſed nearly as in the Life.

a, The Optic Nerve.
b, The *Muſculus attollens.*
c, The *Depreſſor.*
d, The *Adductor.*
e, The *Abductor.*
f, The *Trochlearis.*
g, The *Obliquus inferior.*

FIG. 3.

Is a View of a Countenance in an eaſy Compoſure, wherein no Muſcle can be ſaid to have any particular Action, and wherein every Muſcle in its reſpective Place only conſpires to form the pleaſing Symmetry and Proportion that appears thro' the Whole. An Appearance like this on the Face muſt inform every Spectator, that, altho' the Mind of the Perſon who wears it, does not ſeem to be exalted into Mirth, or Veneration, yet it muſt at the ſame time ſhew, that neither is it debaſed by Envy, Malice, Jealouſy, or a tyrannic Spirit; nor degraded into deſponding Grief and Care, the true Characteriſtic of thoſe who are not happy enough to rely on the AUTHOR of PROVIDENCE for His Protection; nor fill'd with Fear and Terror, either at external Dangers, or the more excruciating Attendance of the Guilt of having injured others; nor disfigured by the deforming Grins or

Sneers, which are the Dictates of Pride, Haughtineſs, Ignorance, and Scorn; nor, in fine, chain'd by a narrow Stricture of Soul, which would circumſcribe the Benevolence of GOD towards Mankind, deny Happineſs to Fellow-creatures, and monopolize it all to its own deſpicable Self; whereas ſuch a Face is undoubtedly more ready to alter into Cheerfulneſs and Complacency, and to demonſtrate to the World that benevolent Compaſſion, which is the natural Bent of the generous Mind that owns it.

Thus a Countenance of this engaging eaſy Aſpect ſhews the Man ſecurely cover'd by that moſt noble Shield a good Conſcience; which renders him ſtedfaſt in every Reſolution that leads to Virtue, tho' often repuls'd by the Rubs of Oppoſition and Affront; and prompts him to commiſerate even Enemies in Diſtreſs, and to ſpeak the Truth with a decent Magnanimity, in the Preſence of the moſt Arrogant and Envious.

The Picture of ſuch a happy Soul is painted in the moſt lively Colours, by that inimitable Poet *Horace*, in the following Lines, which I cannot avoid repeating here:

Virtus, repulſæ neſcia ſordidæ,
Intaminatis fulget honoribus;
Nec ſumit aut ponit ſecures
Arbitrio popularis auræ.

Virtus recludens immeritis mori
Cœlum, negata tentat iter via;

Cœtuſque

TAB. III.

1



I. P. M. del.


2
J. Mynde fe.

Cætuſque vulgares, et udam
Spernit humum fugiente penna.

HOR. *Lib.* III. *Ode* 2.

Juſtum, et tenacem propoſiti virum
Non civium ardor prava jubentium,
Non vultus inſtantis tyranni
Mente quatit ſolida, neque Auſter
Dux inquieti turbidus Adriæ,
Nec fulminantis magna Jovis manus:
Si fractus illabatur Orbis,
Impavidum ferient ruinæ.

HOR. *Lib.* III. *Ode* 3.

TABLE III.

FIG. I.

Repreſents a Face whereon *Veneration* or *Reverence* is apparent, notwithſtanding the acting Muſcles are very few, which obey the Dictates of the Mind in this Caſe; and which may be increaſed to the moſt profound Veneration by a little augmenting their Actions.

The *Aperiens Palpebram* draws up the upper Lid of each Eye, at the ſame time that the *Elevator*, by its Contraction, turns up the *Pupil*; for in this Caſe they act in perfect Harmony; and theſe Actions are but moderate, yet are ſufficient to ſhew the Meaning of the Mind, in the ſeveral Paſſions we ſhall

ſhall bring under this Head. The Mouth alſo is but moderately opened; not by the Action of the Muſcles that ſerve to pull down the lower Jaw (becauſe when they act they open the Mouth pretty wide), but by the Remiſſion of the Action of thoſe Muſcles which ſerve to pull it up; for this Maxim is neceſſarily true, That, between the Actions of any Muſcle and its Antagoniſt, there muſt be a Remiſſion of the former; ſo that, as in the Caſe before us, the Remiſſion is ſometimes ſufficient, without any Neceſſity for the ſubſequent Action of the Antagoniſt. The ſame is obſerved before, where we mention the *Occipito-Frontalis* and the *Corrugator Coiteri.*

But, in order to render this Remiſſion of the *Temporalis* and *Maſſeter* (which are the Muſcles ſerving to draw up the Jaw) more eaſily underſtood, let us only obſerve a Perſon ſleeping in a Chair, with his Head leaning directly backward, or upon his Back in Bed, at which time the Mind is quite undetermined to any Deſign; we ſhall ſee the lower Jaw fall by its own Gravity; which cannot happen but by the Remiſſion alone of thoſe Muſcles mention'd; becauſe the *Digaſtricus*, *Pterigoidæus externus*, and *Pterigoidæus internus*, which ſerve to open the Jaw, are as much at Reſt as the former. This any one may prove, by leaning his Head back, and letting his Jaw fall ſpontaneouſly as far as it will go; and then, by bringing thoſe Muſcles juſt mentioned into Action, he will be able to pull it down yet lower. But if a Man's Head leans forward on his Breaſt in a Chair, or if in Bed his Bolſter and Pillow be high while he ſleeps,

ſleeps, then the Preſſure of his Chin upon his Breaſt keeps his Mouth ſhut.

The Paſſions of the Mind that are generally expreſſed by the Actions and Remiſſions of the Muſcles mention'd, with but very little Variation, are,

1°. *Eſteem* for any Object.—If the Object be of divine, or otherwiſe of a ſuperior Nature, the preſent Syſtem of the Face ſerves to expreſs the Eſteem with a graceful Humility, ſuch as is becoming in adoring the Divine Being; or in profeſſing a grateful Reſpect for Superiors, who have conferr'd any Favours. And if this Countenance be accompanied with other Actions of the Body that are generally concomitant with it, as the Head bow'd or inclin'd forwards; the Hands ſpread forwards, or lifted up; the Knees bent, and the Body inclined forwards; then the Appearance of the Mind's Diſpoſitions is yet more conſpicuous.

If the Object of Eſteem be extended to any Friend, who can claim no Superiority, or be any Matter of Curioſity, then it is ſufficiently expreſſed by this ſettled Countenance, only bringing the *Pupils* of the Eyes to view the Object, having the Lids but moderately open'd, inſtead of being elevated, whether the Perſon ſits or ſtands.

2°. *Love* is a Paſſion which is a natural Follower of Eſteem, according to the different Circumſtances that attend it, and can only be conceived for Perſons; the Expreſſion of ſimple Friendſhip is juſt accounted for, and alſo the Regard for Objects of Curioſity. This Paſſion then, as it is a little more earneſt, requires ſome ſmall Alteration in its Expreſſion upon the Countenance. Thus, if a Lover is making

making an Addreſs in Converſation, or if there be a reciprocal Affection in the Perſon to whom the Addreſs is made, it will be expreſſed by this Syſtem of the Face, with this Difference, that in the Man, the Head inclined downwards, and to one Side, will cauſe the Eyes to appear more languiſhing; and in the Woman, the Lids but moderately open, and the *Pupils* rather carried a little downwards, will be very expreſſive; for in the Man, this Love amounts to Veneration; in the Woman, to an Eſteem, adorn'd with a modeſt Deportment.

If it be attended with *Deſire*, the ſame Aſpect will ſerve to expreſs it, with the Addition only of a more florid and vivid Colour of the Lips and Cheeks, and the *Pupils* of the Eyes directed to the Object of Love.

Thus gazed *Antiochus* from his Bed, faſtening his Eyes upon his Charmer, of whom I hope I may be allow'd the Liberty to give a ſhort Account, being a moving and intereſting Story:

" ANTIOCHUS, a Prince of great Hopes, fell paſſionately in Love with the young Queen *Stratonice*, who was his Mother-in-law, and had born a Son to the old King *Seleucus* his Father. The Prince, finding it impoſſible to extinguiſh his Paſſion, fell ſick, and refuſed all manner of Nouriſhment, being determined to put an End to that Life which was become inſupportable.

Eraſiſtratus the Phyſician ſoon found that Love was his Diſtemper; and obſerving the Alteration in his Pulſe and Countenance whenever *Stratonice* made him a Viſit, was ſoon ſatisfied that he was dying for his

his young Mother-in-law. Knowing the old King's Tenderneſs for his Son, when he one Morning enquir'd of his Health, he told him, That the Prince's Diſtemper was Love; but that it was incurable, becauſe it was impoſſible that he ſhould poſſeſs the Perſon that he lov'd. The King, ſurpriſed at this Account, deſired to know how his Son's Paſſion could be incurable? Why Sir, replied *Eraſiſtratus*, becauſe he is in Love with the Perſon I am married to.

The old King immediately conjur'd him, by all his paſt Favours, to ſave the Life of his Son and Succeſſor. Sir, ſaid *Eraſiſtratus*, would your Majeſty but fanſy yourſelf in my Place, you would ſee the Unreaſonableneſs of what you deſire. Heaven is my Witneſs, ſaid *Seleucus*, I could reſign even my *Stratonice* to ſave my *Antiochus!* At this the Tears ran down his Cheeks; which when the Phyſician ſaw, taking him by the Hand, Sir, ſaid he, if theſe are your real Sentiments, the Prince's Life is out of Danger; it is *Stratonice* for whom he dies. *Seleucus* immediately gave Orders for ſolemnizing the Marriage; and the young Queen, to ſhew her Obedience, generouſly exchanged the Father for the Son." *See the* TATLERS.

But if the Paſſion of Deſire be prompted and accompanied by any more engaging Circumſtances, then the *Elevator* of the Eye will act ſtrongly, cauſing the *Pupil* to turn up, at the ſame time that the Action of the *Aperiens Palpebram* is more remitted, whereby all the *Pupil*, except a little of the lower Edge, will be hid, and the Lids come nearer each other; the Mouth being a little more open, the End of the Tongue will lie careleſly to the Edge of the

Teeth, and the Colour of the Lips and Cheeks be increaſed.

Thus yielded *Danae* to the Golden Shower; and thus was her Paſſion painted by the ingenious Mr. *Hogarth*.

Hope has an undoubted Relation to every Paſſion we have now mention'd, and therefore cannot be better imprinted on the Countenance than by this very Syſtem; theſe are the Muſcles which act, and are remitted, to expreſs it in Obedience to the Mind, for, as it conſiſts only of a ſeeming Likelihood or Expectation of obtaining what we earneſtly deſire, love, eſteem, or venerate; and as it muſt be ſomething pleaſing and agreeable we hope for; the Countenance muſt be the ſame as in this Figure, with this Difference, that the Corners of the Mouth muſt be drawn a very little more backwards, and turned upwards, which increaſes the Appearance of the Satisfaction upon the Countenance that demonſtrates ſuch an Expectation; for we may love or deſire an Object, that we may never have the leaſt Hope of obtaining; which is the Cauſe of this Difference in the Aſpect,

The Harmony of this Countenance ſhews alſo, that it partakes of all the amiable Qualities mention'd in our Explanation of the laſt Figure, which is capable of being alter'd only into the Claſs of theſe noble Paſſions of the Mind of its Owner, that this Figure repreſents, whereby it is render'd yet more lovely; and, as the divine *Milton* ſays,

——— *No Veil*
She needed, Virtue-Proof; no Thought infirm
Alter'd her Cheek ———

Heav'n

----- Heav'n in her Eye;
In ev'ry Geſture, Dignity and Love.

What can be more engaging, than to ſee the Countenance of ſo ſerene a Temper of Soul change into any of thoſe Paſſions we have juſt mention'd, becauſe Truth ſhines every-where about it? If into Adoration and Worſhip, it is not likely to be blended with Hypocriſy; if into Friendſhip and Love, we are ſure it is ſincere; and if into Hope, we may depend it is not for trifling Vanities for itſelf, nor for Evil towards others.

There is alſo connected with this Frame of Mind the moſt ſolid and laſting Contentment and Evenneſs of Temper; together with the heavenly Diſpoſition to an unmercenary Friendſhip for Mankind. Nothing is more noble in itſelf, yet nothing more rare; and is to be no-where ſo certainly found as in a Heart content with its own Poſſeſſions. This is the Virtue which deſpiſes not the Brave for being unfortunate, nor tyrannizes over the Diſtreſſed; which is ready to overlook and excuſe the trivial Faults of others, and pity their Weakneſs; whoſe generous Complaiſance is ſuch, as never to mar Society by thwarting the Company, and aſſuming too much to itſelf; nor to ſet up for a ſupreme Judge of every thing that comes upon the Carpet.

—— Amatorem quod amicæ
Turpia decipiunt cæcum vitia, aut etiam ipſa hæc
Delectant ——
Vellem in amicitia ſic erraremus: et iſti

Errori nomen virtus poſuiſſet honeſtum.
At, pater ut gnati, ſic nos debemus amici,
Si quod ſit vitium, non faſtidire.

HOR. *lib.* I. *Sat.* 3.

FIG. 2.

Demonſtrates a Face full of Fear and Terror.

1. Here the *Occipito-Frontalis* drags up the Eyebrows, and wrinkles the Forehead tranſverſly.
2. The *Aperiens Palpebram* on each Side pulls open the Lids with Violence a great way above the *Pupils*, which are as it were ſuſpended below the *Equator*, by the Remiſſion of the *Elevators*.
3. The *Digaſtricus* and *Latiſſimus Colli* pull down the lower Jaw.

The Reaſon why the Eyes and Mouth are ſuddenly open'd in Frights, ſeems to be, that the Object of Danger may be the better perceived and avoided; as if Nature intended to lay open all the Inlets to the Senſes for the Safety of the Animal; the Eyes, that they may ſee their Danger; and the Mouth, which is in this Caſe an Aſſiſtant to the Ears, that they may hear it. This may perhaps ſurpriſe ſome, that the Mouth ſhould be neceſſary to hear by; but it is a common thing, to ſee Men, whoſe Hearing is not very good, open their Mouths with Attention when they liſten, and it is ſome Help to them: The Reaſon is, that there is a Paſſage from the *Meatus auditorius*, which opens into the Mouth.

Mouth. Thus we ſee how ready Nature is, upon any Emergency, to lay hold of every Occaſion for Self-preſervation.

But when a Perſon is frighted, ſo as not to be under an inſtantaneous Apprehenſion of Danger, by being purſued, or the like; then the upper Part of the Face will be as in this Figure, and the lower ſomewhat different from what it appears here; that is, the Mouth will open moderately, by the Remiſſion of the Actions of the *Temporal* and *Maſſeter* Muſcles, having the Corners, or *Rictus Oris*, inclin'd a little downwards.

It has been imagin'd, that the Eye-brows might be moved in Parts; that is, that one Part of a Brow may be pull'd up, while the other is pull'd down: But this cannot be, for the *Occipito-Frontalis*, which pulls up the Brow, acts all at once on either Side; ſo that the intire Brow muſt be pull'd up at once, or, by its Remiſſion, let down at once. I never yet ſaw any one, who was able to give them this partial Motion, and there are but few who can raiſe either without the other at the ſame time; ſo that this Opinion amounts to ſomething Nature never intended, and is an Exaggeration which renders any Figures prepoſterous.

Fear, *Horror*, and *Terror*, are but Terms which ſignify the ſame Paſſion, only in different Degrees; and are all expreſſed by this Figure, only rendering the Change of Features, by the Motion of the Muſcles, greater or leſs; which, if accompanied with certain Actions of the Body, would expreſs them more abſolutely. As for Example; if on the Ground, under an Enemy reſolved on the Deſtruction of the frighted

frighted Perſon, with Hands lifted up, and Fingers ſtretch'd far aſunder, dreading the fatal Blow; or, if flying from Danger, with the Hands puſh'd forward, and looking back at the Object that affrights; which kind of Fear may be excited by Imagination, as well as by real Objects. Thus *Virgil:*

Obſtupuit, retroque pedem cum voce repreſſit:
Improviſum aſpris veluti qui ſentibus anguem
Preſſit humi nitens, trepiduſque repente refugit
Attollentem iras, et cærula colla tumentem. ——

And again:

Nunc omnes terrent auræ, ſonus excitat omnis
Suſpenſum. —— VIRG. Æn. *l.* II.

If, in this State of Fear, the Countenance inclines to a livid Colour, it is no great Wonder, ſince the whole Maſs of Blood, after the firſt Surprize, grows languid; for, being puſhed with great Force to the Extremities, it ſuddenly loſes that *Momentum*, and, as it were, ſtagnates in the minute Capillaries on the Surface, immediately after; and then the Blood is, as the ſame muſical Poet has it,

——*ſociis ſubita gelidus formidine ſanguis*
Diriguit: cecidere animi ——

Except in Flight, where the Exerciſe ought to increaſe the *Momentum* continually, and heat the Maſs; then, indeed, the Countenance is florid, notwithſtanding the Terror. Thus the Beauty of *Daphne* was

was heighten'd while ſhe fled from *Apollo*; which increaſed at once her Danger, and its Cauſe.

——————*Fugit ocyor aura*
Illa levis——
——*Sic agna lupum, ſic cerva leonem,*
Sic aquilam penna fugiunt trepidante columbæ:
Hoſtes quæque ſuos.——

Auctaque forma fuga eſt.—— OVID. Met. *l.* I.

In this Circumſtance of Flight there is another Reaſon why the lower Jaw is pull'd down, in order to open the Mouth; and that is, Since every Aſſiſtance is neceſſary for the Relief of the Perſons frighted, that they may the more freely exhibit their Voices in ſhrieking and crying out, in order to alarm and ſummon all within the Call to their Reſcue; who, without it, might know nothing of the Diſtreſs, tho' near enough to give timely Aid.

To this Claſs may be added *Deſpair*, and the ſame Countenance will ſerve to expreſs it, with very little Alteration: For, as the firſt Advance to that Paſſion is the Fear, Terror, or Dread of any Danger, and is thus expreſſed, ſo the Deprivation of any Hope for Relief, and the perpetual Dread of meeting the fatal Shock, is *Deſpair*; and therefore, by adding Paleneſs, and a livid Aſpect, to this Countenance, it will be well repreſented; becauſe, when all Hopes are given over, the Blood grows languid in every Part, notwithſtanding the ſame Fear and Terror remains, from the Perſon's ceaſing to make any Defence; and at length degenerates into a melancholy

choly Madneſs: So that Flying, or Sitting, or Lying proſtrate on the Ground, may be ſuitable Attitudes to this Paſſion; and then the Countenance will be chang'd, as in the Paſſion of Grief.

I cannot but think it a wrong Application of the Paſſion of *Deſpair*, to repreſent it with ſtaring Hair, corrugated Face, the Brows drawn down even with the Eyes, and the Mouth open, with a weeping Aſpect; for, inſtead of ſuch violent Contractions, which are Signs rather of bodily Pain and Torment, there is in deep *Deſpair* a Ceſſation from thoſe muſcular Actions in the Face; and the firſt Actions of Fright are rather remitted, as it were, into a Relaxation of thoſe Muſcles, and a Falling of the Countenance; becauſe all Exertion towards a Defence, as I have juſt ſaid, is given up, and a Deſponding and Fainting are often the Conſequences.

TABLE IV.

FIG. 1.

Shews a Countenance of Scorn and Deriſion, which is formed by the following Muſcles.

As ſoon as the Mind ſuggeſts a Contempt for Perſons or Things, whether deſervedly or not, the firſt Muſcles that begin to act are, the *Elevator Labii ſuperioris proprius Cowperi*, and the *Pyramidalis*, on one Side only; whereby that Side of the upper Lip is

TAB. IV.

1



T. P.ª MD del.

2



is pull'd up, ſo as to ſhew the Teeth, the other Side only inclining a little to grin; and at the ſame time, the *Slip*, which is an Aſſiſtant to the *Pyramidalis*, called, in the Explanation of the firſt Plate, the *Pyramidalis ſocius* of *Santorini*, wrinkles the Skin of the Noſe by its Contraction.

On the ſame Side the *Riſorius* draws back the Corner of the Mouth; and the Action of the *Aperiens Palpebram* is remitted, whilſt that on the other Side is in its Action; ſo that, tho' one Eye is moderately open, and the other almoſt ſhut, the *Pupils* are carried obliquely downwards, by the *Abductor* of the one, and the *Adductor* and *Obliquus inferior* of the other, looking downwards and backwards at the Object of Contempt. Sometimes (eſpecially in winking at a Stander-by, who joins in the Contempt) the *Orbicularis*, by its Contraction, gathers up the Skin of that Side of the Face over the *Os Mali*, and cauſes it to wrinkle under the Eye, at the ſame time that the *Occludens Palpebram* ſhuts the Eye intirely, or very near it.

There are ſeveral Geſtures of the Body, which conſent to, and favour, this villainous, ungenerous Paſſion; as, looking back at the Object, with a Toſs of the Head, and a Shrug of the Shoulders with this Countenance, upon being ask'd an Opinion of an abſent Perſon; which is as keen an Arrow, and ſtabs as deep, as even the Slander of a baſe Tongue; and ſometimes it is attended with a grinning Laugh, which can have no real Meaning, becauſe there is no

real Cauſe for it; and the Hypocriſy of the Mirth is eaſily diſtinguiſh'd upon the Face.

This is that kind of Aſpect that one would imagine, according to *Martial*, was much in Vogue in his Time at *Rome*:

Neſcis, heu! neſcis, dominæ faſtidia Romæ;
Crede mihi, nimium Martia turba ſapit.
Majores nuſquam ronchi; juveneſque, ſeneſque,
Et pueri naſum rhinocerotis habent.
Epigr. 4. l. I.

The Source of this Countenance is *Pride*; and its Train of Attendants are, *Arrogance*, *Deriſion*, *Haughtineſs*, and *Scorn*; for every one of which this Aſpect may ſerve as the Repreſentation: And it is remarkable, that, where-ever theſe Paſſions reign, there is no Room for any thing valuable: For, as *Pope* ſays,

Whatever Nature has in Worth deny'd,
She gives in large Recruits of needful Pride.

Nor is there among all the Paſſions of the Mind one more injudicious and erroneous in its Application than Pride; for what is more common, than to ſee *Arrogance* raiſe its Creſt, where a decent *Humility* ought to be practiſed? What more ridiculous than *Deriſion* and *Scorn*, where *Eſteem* and *Compaſſion* ſhould be? And what more baſe than *Haughtineſs* and *Tyranny*, inſtead of *generous Pity* and *Mercy*, for thoſe whom we have in our Power?

There are other Actions of the Body and Extremities that accompany this Countenance, as recoiling backwards

backwards from, and extending and oppoſing the Hands to the Thing one diſdains, in order to keep it at a Diſtance.

FIG. 2.

Is the Repreſentation of a moroſe envious Countenance.

The Action is frowning with a malicious Grin; and the Muſcles, which ſerve to form this Aſpect, are, The *Corrugator Coiteri*, which ſtrongly forces the Brows downwards and inwards, at the ſame time that the *Aperiens Palpebram* drags up the upper Lids of both Eyes, and the *Depreſſor* of each Eye inclines the *Pupils* downwards: The Mouth alſo, which in this Paſſion has a great Share, is ſubject to the Actions of ſeveral Muſcles. The *Pyramidalis*, and *Elevator Labii ſuperioris proprius* of *Cowper*, draw up the upper Lip on each Side, while the *Triangulares* draw the Corners of the Mouth ſomewhat downwards; and the *Elevator Labii inferioris proprius* of *Cowper* pulls the Middle of the under Lip upwards in the pouting Way, raiſing with it the Skin of the Chin.

Theſe are the commanding Characters, and theſe the Muſcles, which are ſubſervient to a turbulent Mind.

The Paſſions which are repreſented by this Countenance are, *Envy*, *Malevolence*, *Suſpicion*, *Fury*, and *Jealouſy*; and all theſe have a near Relation to, and naturally follow, that of *Pride*; for, to be

proud, is to fanſy one's ſelf poſſeſs'd of ſomething that others have not, or ought not, in our Opinions, to have: And as there is included in this an Opinion of ſuperior Self-Merit, to ſee another poſſeſs what we have not, or be bleſs'd with a good Name, which, perhaps, we are not intitled to, is to kindle up an unextinguiſhable Anger and Hatred in ſuch a Breaſt; to cauſe the Eyes to roll, the Brows to knit together, the Mouth to grin and pout, and to give free Poſſeſſion of the uneaſy Mind to thoſe curſed Plagues *Envy* and *Malice*; which reverſe the Nature of the Soul, and change it into ſomething lower than Brutality: Then ariſes a Promptitude to Evil, gladly to laugh at the Misfortunes and Diſtreſſes of the Wretched, and to help forward the Deſtruction of a Neighbour:

Tormenting and tormented ev'ry Hour!

Riſus abeſt, niſi quem viſi movere dolores:
Non fruitur ſomno vigilacibus excita curis:
Sed videt ingratos, intabeſcitque videndo,
Succeſſus hominum: carpitque, et carpitur una,
Suppliciumque ſuum eſt.----

OVID. Met. *l.* II.

And this malicious Diſpoſition grows at length into other Branches (thriving like an evil Weed from a malignant Root), of which *Detraction* is one of the moſt dangerous, and againſt which there can be no preſent Defence: Where Wounds are given in the dark, and where the Credit of bad Men is made uſe of to ruin the Innocent and Virtuous, and deceive the Credulous by bad Impreſſions; which, however, Time

Time often wears away in the End, to the Diſcredit of the Calumniator.

----- Abſentem qui rodit amicum;
Qui non defendit, alio culpante; ſolutos
Qui captat riſus hominum, famamque dicacis;
Fingere qui non viſa poteſt, commiſſa tacere
Qui nequit; hic niger eſt: hunc tu, Romane,
caveto. HOR. *lib.* I. *Sat.* 4.

Mordear opprobriis falſis, mutemque colores?
Falſus honor juvat, et mendax infamia terret,
Quem, niſi mendoſum, et mendacem?----
HOR. *lib.* I. *Ep.* 16.

The *ſuſpicious* and *jealous* Man may be repreſented alſo by this deſcribed Countenance, or upon the ſame Principles; for imaginary Griefs of this kind, as well as real ones, produce a Depravation of Temper: The gay Humour grows muddy, when this Paſſion begins, and the Struggle between Love and Reſentment produces a Conflict, which terminates in a Reſolution upon Revenge, and which is accompanied with this ſort of Countenance.

The learned Dr. *Hoadley* has carried this Character thro' all the Windings and Intricacies that a Mind prone to plague itſelf, and the reſt of Mankind, can poſſibly enter into. He has ſhew'd new Jealouſies ſucceeding others, and the torturing Rack, upon which the Peace of ſuſpicious Tempers is daily broken. The Doubts, Fears, Reſolutions, Rage, Pauſes, Credulity, and Miſtruſts, are painted in their moſt natural Colours; and have been well repreſented

ſented at *Covent Garden* Theater, with the other juſt Characters in his ingenious Piece. *

This happens, when there is already a Poſſeſſion and Pre-ingagement of the Object of Love; but where the Affection is only growing for one not yet poſſeſſed or engaged, and the Lover ſees another careſſed, with but the ſlighteſt Favour of ſimple Friendſhip, whom he miſtruſts is a Rival, the Jealouſy ariſing in ſuch a Breaſt is not the ſame with that juſt mention'd; becauſe there can be no Cauſe for Reſentment nor Revenge, ſince there is yet no Poſſeſſion or Property in the Object; and therefore that kind of Jealouſy ought to be expreſſed by a Countenance of Sorrow and Dejection, the Principles of which we ſhall endeavour to explain in the next Table; and which muſt appear yet more obvious, by having Regard to that inimitable Picture of a jealous Lover in *Sapho*, tranſlated by Mr. *A. Phillips:*

Bleſt as th' immortal Gods is he,
The Youth who fondly ſits by thee;
And hears and ſees thee all the while,
Softly ſpeak, and ſweetly ſmile.

'Twas that depriv'd my Soul of Reſt,
And rais'd ſuch Tumults in my Breaſt;
For while I gaz'd, in Tranſports toſt,
My Breath was gone, my Voice was loſt.

My Boſom glow'd, the ſubtil Flame
Ran quick thro' all my vital Frame;
O'er my dim Eyes a Darkneſs hung,
My Ears with hollow Murmurs rung.

In

* The *Suſpicious Husband.*

In dewy Damps my Limbs were chill'd,
My Blood with gentle Horrors thrill'd;
My feeble Pulſe forgot to play,
I fainted, ſunk, and dy'd away.

To which dejected Countenance Paleneſs added, heightens the Picture; and if in a reclining Poſture, or falling down and ſinking amidſt the Arms of ſeveral Aſſiſtants, it would yet be render'd more expreſſive.

When *Revenge* is ſuggeſted in the Mind, it circumſtantially increaſes to *Fury* and *Rage*, which muſt be repreſented by this Plan upon the Face, heighten'd by adding Fire to the Eyes already ſtarting forth, and an unequal Colour to the whole Countenance; that is, ſome Parts flush'd with Red, and others livid and pale; becauſe the Muſcles that act to form the Features neceſſary in this Paſſion, are now ſo violently contracted, as to ſqueeze forth the Blood from the Veſſels proper to them, and the adjacent Parts; whereas the Parts continuous to the Muſcles, that do not act, remain florid, by the general Emotion occaſion'd in the whole Maſs, having no ſuch Reſiſtance attending them.

Theſe, with the Addition of ſuitable Geſtures of the Body, ſuch as Combatants uſe in aſſailing one another, or a ſwift Purſuit with an uplifted Arm, holding ſome direful Inſtrument of Deſtruction ready to execute Revenge, will render the Repreſentation yet more lively:

His

His agitur furiis, totoque ardentis ab ore
Scintillæ abſiſtunt: oculis micat acribus ignis.
VIRG. Æn. XII.

Ora tument iræ; nigreſcunt ſanguine venæ:
Lumina gorgonio ſævius angue micant.
OVID. de Art. am. *l.* III.

TABLE V.

FIG. 1.

Repreſents a cheerful Countenance.

The Action is *Laughter*; and the Muſcles that are now brought into Uſe are,

1. The *Riſorius* on each Side; and, becauſe it is gone beyond a Smile, the
2. *Buccinatores* have carried the Corners of the Mouth farther back, and the Skin of the Face, over the *Os Mali*, is preſſed up by the Contraction of the *Orbicularis*, together with the under Lid, at the ſame time that the ciliary Fibres of the the upper are a little contracted; for, in laughing, the Eyes are more or leſs ſhut; and if it is increaſed to a vehement Laughter, the *Buccinatores* are more forcibly contracted, the Skin of the Face driven higher up, by the Contraction of the *Orbicularis*, and the Eyes in many People quite ſhut up during that Action.

3. Here

TAB. V.

1



I. P.s M.D. del.

2



J. Mynde sc.

3. Here alſo the *Zygomaticus major* aſſiſts, in drawing the Corners of the Mouth upwards. There are many who open their Mouths very wide in laughing and then the
4. *Digaſtric* Muſcle, and the *Latiſſimus Colli* act in pulling down the lower Jaw; and in ſome Perſons who laugh heartily, the Muſcle call'd the *Socius pyramidalis* is drawn into Conſent, and, by its Contraction wrinkles the Skin of the Noſe.

From this Explanation it may be inferr'd, that the Degree, of Joy on the Countenance, may be repreſented by rendering the Action of theſe Muſcles more or leſs ſtrong; for, ſuppoſing the Mind was happy and glad upon any Occaſion, where immediate Laughter did not ſeem neceſſary, a bare Diſpoſition to ſmile, upon the Mouth, with the Eyes a little more, but not quite, open, would ſufficiently denote it. In the Figure before us, the Mirth appears to be greater, and a moderate Laughter influences the Whole, which ſeems to be real, from the general Conſent between the Mouth and Eyes; but there is a great deal of Difference between this and a fictitious Mirth put on to ſerve an Occaſion, when the Mind conſents not to it.

This is very conſpicuous in ſome *Players* (acting their Parts in Comedies which require much Laughter), who do not always enter well into it, for want of the Mind's Influence; and then the Laughter put on appears dry and unmeaning; and altho' the Mouth puts on a Smile, it ſeems forced, becauſe the Muſcles of the Eyes are not in Conſent; for, as the Mind is employed in recollecting the Part he is to ſpeak,

its natural Suggeſtions have not been applied to that Paſſion; and, conſequently, are not free enough to mand Laughter. But if he is perfect in his Part, having nothing to ſtudy while he acts, he is then capable of taking to himſelf a Share in the Mirth, and of laughing in earneſt.

Another Caſe wherein Laughter is unmeaning, is, when a Perſon, dreſs'd with all the Marks of Adulation, feigns a Laugh, to favour that of a Superior, and feed his Vanity. Here, too, the other Muſcles of the Face give the Lips the Lie, and prove the Hypocriſy; for it wants their Conſent, as in the Caſe juſt mention'd.

There is another miſerable Circumſtance which makes Laughter appear dreadful, and that is when it is convulſive: In this Caſe, the Nerves which communicate the Conſent or Sympathy between the *Diaphragm* and the Muſcles of Laughter, are affected, and the Cachinnations, occaſioned by the convulſive Twitches of the former, draw the latter into Conſent to form that kind of unnatural and involuntary Laughter, which is called by Authors the *Riſus Sardonicus* *. It is a melancholy Sight, when a Perſon fallen to the

* This Appellation comes from the Name of a Plant, by ſome called *Herba Sardonia*, or *Sardinia* by others, *Apium agreſte*, or *Apium Riſus*; which is ſaid to produce this kind of Convulſion; and being ſaid to grow in great Plenty in *Sardinia*, thence came the Name *Herba Sardonia*, and thence this Name *Riſus ſardonicus*.

This Laughing without Cauſe, or *Riſus Sardonicus*, had another Source with ſome Authors: It was ſaid, the *Sardinians* uſed to ſacrifice their Priſoners to *Saturn*, who laughed, to ſhew their Bravery and Fortitude at their Deaths: Alſo, that the *Sardinians* laugh, when they intend any Evil to another.

the Ground ſhall appear all over convulſed and diſtorted, laughing at the ſame time that Miſery and Diſtreſs appear upon the whole Countenance: Sometimes it is follow'd by immoderate Weeping, from the ſame Correſpondence with the Muſcles of that Paſſion in the Face; which, tho' convulſive, is yet leſs ſhocking; as it ſeems, at leaſt, more ſuitable to the Miſeries of the afflicted poor Creature.

An unfortunate Perſon ſometimes feigns a Laugh to conceal his Diſtreſs; but it is eaſy to diſcern that the Heart is not the Dictator of that ſeeming Mirth, by obſerving the Want of the Sympathy of other Parts of the Countenance.

When Laughing is vehement, it is a common Thing to ſee Tears flow from the Eyes, before the Perſon who laughs has quite given over; becauſe, by the Violence and Continuation, for ſome time, of the Motion of the Diaphragm, the Blood is puſh'd with great Force to the Face, and, conſequently, to the *lacrymal Glands*; where, by that means, join'd to the Preſſure made by the ſtrong Contraction of the *Orbicular* Muſcles, the Tears are ſqueez'd out of the Glands in abundance; and when once they are begun, will continue to trickle down, till the Laugh ceaſes, and the Diaphragm and Muſcles of Laughter in the Face are at Reſt.

The Appearance of this Countenance, with the Body in an Attitude ſuitable to the Occaſion, would make the Repreſentation ſtill the better; as, ſitting in a Converſation either with the Head lifted up on one Side, or ſtanding with the Body leaning backward, where the Object of Mirth is preſent: And there is another frequent Action that attends vehe-

ment Laughter. which is, laying the Hands on each Side to the Ribs holding the Sides, and is cauſed thus: The upper Part of the Diaphragm is attached to the End of the *Cartilago enſiformis*, and to the Cartilages of the ſeventh Ribs, and to the Edges of the Cartilages of all the lower Ribs, and, in fine, to the bony Part of the laſt; and the lower Part to the *Vertebræ* of the Loins. From hence it happens, that when Laughter is violent, and continued too long, the conſtant Vellication of all thoſe Parts fatigues the Perſon, and cauſes Pain in the Regions of the Parts mention'd; that is, in the Loins, Breaſt, and Sides: And this is the Reaſon why we are ſo apt, in violent Laughter, to hold our Sides, Breaſt, or Back.

Sport, that wrinkled Care derides,
And Laughter, holding both his Sides.
MILTON, il Allegró.

Here it will not be unſeaſonable to mention a Circumſtance, the bad Effects of which I ſaw more than once, which regards Laughing. A Perſon playing with a Child tickled him in the Sides very much; and ſeeing him at firſt pleas'd with it, continued it ignorantly, till the poor Child grew black in the Face, was convulſed all over, and had Reſpiration ſo impeded by it, that he was ſhort-breath'd as long as he liv'd, and had a fix'd Pain under his right Breaſt for ſeveral Years. It was remarkable, that after a little time, when he grew tir'd with laughing in earneſt, he ſtill continued a Noiſe like laughing, when his Face grew livid, without a due Con-

ſent

ſent of the Muſcles, and it became the *Riſus Sardonicus*. Another fine Child grew ill, from being provoked to laugh inordinately in the ſame manner, and dwindled and waſted away to Skin and Bones in leſs than a Year.

To laugh in due Seaſon is agreeable and pleaſing to Society; but to proſtitute this lovely Paſſion to Trifles, or be inclin'd to laugh others to Scorn frequently, is ſufficient to create in the Minds of the prudent Part of the World, a Suſpicion of weak Underſtanding, or much Self Conceit.

Riſus continuus et intentus eſt deterior iracundia; idcirco maxime viget in ſcortis et pueris ſtolidioribus. STOBÆUS, *Ser.* 72.

TABLE V.

FIG. 2.

Shews a Countenance of *Sorrow*, whoſe Action is Weeping. In this Paſſion the Muſcles that are the Inſtruments for its Formation are:

The *Triangularis* on each Side, which draw down the Corners of the Mouth, while the *Elevator Labii inferioris proprius* pulls up the under Lip. At the ſame time the Eyes have a principal Part to act in this Caſe; for the *Aperiens Palpebram* is remitted, while the *Elevator* of the Eye has a little

little rais'd the *Pupil*, which is cover'd by the Lid, and looks languid; the other Muſcles of the Face are relax'd, and the Diſtance between the *Rictus Oris* and the Eyes is much lengthened. This gives Occaſion for the Phraſe commonly uſed, of *putting on a long Face*, upon being ſorrowful; and the Relaxation mention'd cauſes the forlorn Look.

Immoderate Grief, by keeping thoſe Muſcles relax'd for a Series of Time, brings on that hagged gloomy Look, which no Change of Mind afterwards can alter, and round whoſe doleful Aſpect Care ſits brooding.

Grief may be real or imaginary; and, in either Caſe, the Aſpect is ſufficiently repreſented in this Figure; but it may be alſo feign'd; there will be, in that Caſe, as little Sympathy between the Mouth and Eyes as we ſhew'd to be in the Countenance of Mirth, where it is inſincere; and therefore, tho' the Mouth, by the Direction of its Corners downwards, may ſerve to repreſent that Paſſion, yet the Eyes cannot be influenced by any means but real Grief, to ſhed Tears, or appear languid; and therefore, if an hypocritical Sorrow was to be repreſented, it could not be better done, than by making the Eyes appear gay, or inclining to the laughing Way, and the Mouth at the ſame time on the weeping Mood; the reſt of the Face being well-proportion'd.

When Grief is real, and founded upon juſt Reaſon, the pitying Part of Mankind are ſo moved at it, that one may venture to call it the Touchſtone of

of the generous Breaſt; and this amounts to that moſt divine Gift *Compaſſion*, which is the Root of many Virtues, which comforts the Afflicted, and eaſes them of great Part of their Diſtreſſes; and that Pity, which ariſes at the Tears of afflicted Beauty, often grows into the moſt laſting and generous Friendſhip. *Juvenal*, in his fifteenth Satyr, has given a true Picture of Compaſſion in the following Lines:

—— Molliſſima corda
Humano generi dare ſe natura fatetur,
Quæ lacrymas dedit: hæc noſtri pars optima ſenſus.
Plorare ergo jubet cauſam lugentis amici.
Naturæ imperio gemimus, cum funus adultæ
Virginis occurrit, vel terra clauditur infans.

Tears have their great Uſe in human Life; they are often the ſtrongeſt and moſt perſuaſive Solicitors for Mercy:

Quo gemitu converſi animi, compreſſus et omnis
Impetus. ——
His lacrymis vitam damus, et miſereſcimus ultro.

But, beſides theſe, I find an *Engliſh* Poet ſinging their other Uſes in the moſt pathetic and engaging manner; whoſe charming Song it would be unpardonable to conceal, ſince no Language can boaſt of one more expreſſive upon the Subject, and wherein he has ſhewn, that Tears are a Bleſſing peculiar only to human Nature.

How

How wiſely Nature did decree
With the ſame Eyes to weep and ſee;
That, having view'd the Object vain,
We might be ready to complain!
And ſince the Self-deluding Sight
In a falſe Angle takes each Height;
Theſe Tears, which better meaſure all,
Like watry Lines and Plummets fall.
I have thro' ev'ry Garden been,
Among the Red, the White, the Green;
And yet, from all the Flow'rs I ſaw
No Honey but theſe Tears, could draw.
So the all-ſeeing Sun, each Day,
Diſtils the World with chymic Ray;
But finds the Eſſence only Show'rs,
Which ſtrait, in Pity, back he pours.
So Magdalen, *in Tears more wiſe,*
Diſſolv'd thoſe captivating Eyes,
Whoſe liquid Chains could flowing meet,
To fetter her Redeemer's Feet.
Not full Sails haſting loaden home,
Nor the chaſte Lady's pregnant Womb,
Nor Cynthia *teeming, ſhews ſo fair,*
As two Eyes ſwoln with Weeping are.
Ope then, my Eyes, your double Sluice,
And practiſe thus your nobleſt Uſe;
For others too can ſee or ſleep,
But only human *Eyes can weep.*

Andrew Marvel.

Tears are often too forced from their Receſs by Nature, to expreſs an overflowing Joy; but then it is accidental or conſtitutional, and not a true Character of Joy. The firſt Efforts of the Mind to rejoice, if moderate and deliberate, cauſe the *Momentum* of the Blood to increaſe without Violence, and then there is no Interruption to that pleaſing Tranſition of the Mind's Diſpoſition to the Muſcles of the Face, nor of their natural Conformity to it; but when the Joy is received too ſuddenly, it amounts to a Shock, whereby the Blood is driven, at the firſt Onſet, with greater Violence to the Extremities, and in greater Quantity, than can be Time enough brought back to the Heart; whence it remains too long contracted before the *Vena cava* can ſupply Blood enough to force the *Auricles* and *Ventricles* open again, whilſt in the mean time the Head is loaden with too great a Quantity, and the Perſon in Danger of an *Apoplexy*, or ſudden Death. In ſuch a Surprize as this mention'd, *Tears* have another noble Uſe; for, by flowing plentifully thro' the lacrymal Paſſages, the Lives of many have been ſaved; for they leſſen the Bulk of Humours, and gain Time for the more happy Return of the Maſs to its natural Circulation, and, at length, draw the Muſcles mention'd into Conſent, whereby this ſudden Joy terminates in real Weeping. Thus, in vehement Grief too, Shedding of *Tears* in Plenty is known to eaſe the Anxiety uſually attending it.

The divine *Shakeſpear*, in his *Romeo* and *Juliet*, had a true Notion of this kind of Joy, where he ſays:

Back, fooliſh Tears, back to your native Spring!
Your tributary Drops belong to Woe;
Which you, miſtaking, offer up to Joy.

The End of Lecture II.

A N

I N D E X

FOR THE

LECTURES on PHYSIOGNOMY.

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FINIS.